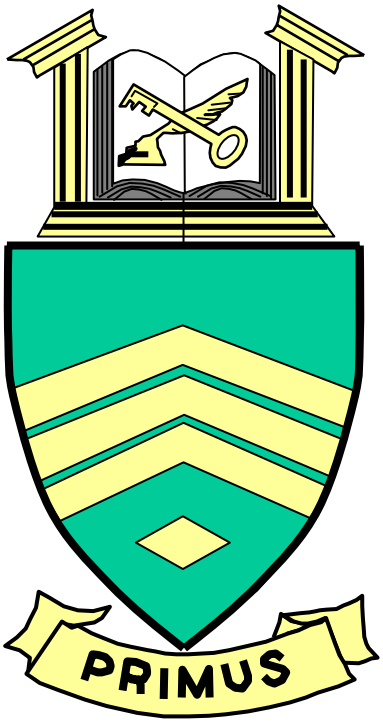
U.S. ARMY SERGEANTS MAJOR ACADEMY (FSC-TATS)

R656 JUN 04

PREVENTIVE MAINTENANCE

PRERESIDENT TRAINING SUPPORT PACKAGE



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PRERESIDENT TRAINING SUPPORT PACKAGE (TSP)

TSP Number / Title	R656 / PREVENTIVE MAINTENANCE
Effective Date	01 Jun 2004
Supersedes TSP(s) / Lesson(s)	R656, Preventive Maintenance Jun 01.
TSP Users	521-SQIM, First Sergeant Course
Proponent	The proponent for this document is the Sergeants Major Academy.
Improvement Comments	Users are invited to send comments and suggested improvements on DA Form 2028, *Recommended Changes to Publications and Blank Forms.* Completed forms, or equivalent response, will be mailed or attached to electronic e-mail and transmitted to: COMDT USASMA ATTN ATSS DCF BLDG 11291 BIGGS FIELD FORT BLISS TX 79918-8002 Telephone (Comm) (915) 568-8875 Telephone (DSN) 978-8875 E-mail: atss-dcd@bliss.army.mil
Security Clearance / Access	Unclassified
Foreign Disclosure Restrictions	FD5. This product/publication has been reviewed by the product developers in coordination with the USASMA foreign disclosure authority. This product is releasable to students from all requesting foreign countries without restrictions.

PREFACE

Purpose

This Training Support Package provides the student with a standardized lesson plan of instruction for:

Task Number	Task Title
Individual	
091-357-0001	Supervise Preventive Maintenance Checks and Services (PMCS)

This TSP Contains

TABLE OF CONTENTS

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PREVENTIVE MAINTENANCE
R656 / Version 1
01 Jan 2004

SECTION I. ADMINISTRATIVE DATA

All Courses Including This Lesson

Course Number	Version	Course Title
521-SQIM	1	First Sergeant Course

Task(s) Taught(*) or Supported

Task Number	Task Title
INDIVIDUAL	
091-357-0001 (*)	Supervise Preventive Maintenance Checks and Services (PMCS)

Reinforced Task(s)

Task Number	Task Title
704-002-0001	Identify Leader Actions and Tools that Support the Army Management Control Process

Academic Hours

The academic hours required to teach this lesson are as follows:

	Distance Learning Hours/Methods	
	1 hr	/ Study Assignment
Test	0 hrs	
Test Review	0 hrs	
Total Hours:	1 hr	

Test Lesson Number

	Hours	Lesson No.
Testing (to include test review)	3	On-Line Exam

Prerequisite Lesson(s)

Lesson Number	Lesson Title
None	

Clearance Access

Security Level: Unclassified
Requirements: There are no clearance or access requirements for the lesson.

Foreign Disclosure Restrictions

FD5. This product/publication has been reviewed by the product developers in coordination with the USASMA foreign disclosure authority. This product is releasable to students from all requesting foreign countries without restrictions.

References

Number	Title	Date	Additional Information
AR 750-1	ARMY MATERIAL MAINTENANCE POLICY	18 Aug 2003	
DA PAM 738-750	FUNCTIONAL USERS MANUAL FOR THE ARMY MAINTENANCE MANAGEMENT SYSTEMS (TAMMS)	01 Aug 1994	
FM 4-30.3	MAINTENANCE OPERATIONS AND PROCEDURES	01 Sep 2000	

Student Study Assignments

All material included in this Training Support Package (TSP).

Instructor Requirements

None

Additional Support Personnel Requirements

Name	Stu Ratio	Qty	Man Hours
None			

Equipment Required for Instruction

Id Name	Stu Ratio	Instr Ratio	Spt	Qty	Exp
None					

* Before Id indicates a TADSS

Materials Required

Instructor Materials:

None

Student Materials:

R656

Classroom, Training Area, and Range Requirements

Ammunition Requirements

Id	Name	Exp	Stu Ratio	Instr Ratio	Spt Qty
None					

Instructional Guidance

None

Proponent Lesson Plan Approvals

Name	Rank	Position	Date
Santa Barbara, Robert A.	GS-09	Training Specialist	
Adams, Chris L.	SGM	Chief Instructor, FSC	
Graham, Kevin L.	MSG	Chief, FSC	
Gratton, Steven M.	SGM	Chief, Functional Courses	
Bucher, George	GS-11	Chief, CMD	
Lemon, Marion	SGM	Chief, CDDD	

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SECTION II. INTRODUCTION

Method of Instruction: Study Assignment
Technique of Delivery: Individualized, self-paced instruction
Instructor to Student Ratio is: 1:14
Time of Instruction: 5 mins
Media: None

Motivator

All soldiers must perform proper Preventive Maintenance Checks and Services (PMCS). You, the senior leader, must provide the time and resources to support this effort. You will be responsible for supervising operator level PMCS on all unit equipment. Most soldiers have assigned weapons, protective masks, and other equipment requiring PMCS. It is impossible to maintain equipment readiness without conducting proper PMCS.

Terminal Learning Objective

At the completion of this lesson, you [the student] will:

Action:	Identify the requirements for supervising PMCS.
Conditions:	As a first sergeant, in a self-study environment, given extracts from AR 750-1 (SH-1), DA Pam 738-750 (SH-2), and FM 4-30.3 (SH-3).
Standards:	Identified the requirements for supervising PMCS IAW AR 750-1 (SH-1), DA Pam 738-750 (SH-2), and FM 4-30.3 (SH-3).

Safety Requirements

None

Risk Assessment Level

Low

Environmental Considerations

NOTE: It is the responsibility of all soldiers and DA civilians to protect the environment from damage.

None

Evaluation

Before entering phase II FSC-TATS, you will receive the end of Phase I Multiple Choice Examination that will include questions based on material in this lesson. On that examination, you must answer at least 70 percent of the questions correctly to achieve a GO.

Instructional Lead-In

None

SECTION III. PRESENTATION

A. ENABLING LEARNING OBJECTIVE

ACTION:	Identify the maintenance responsibility of the commander and leaders.
CONDITIONS:	As a first sergeant, in a self-study environment, given an extract from AR 750-1 (SH-1).
STANDARDS:	Identified the maintenance responsibility of the commander and leaders IAW AR 750-1(SH-1).

1. Learning Step / Activity 1. Identify The Maintenance Responsibility Of The Commander And Leaders

Method of Instruction: Study Assignment
Technique of Delivery: Individualized, self-paced instruction
Instructor to Student Ratio: 1:14
Time of Instruction: 15 mins
Media: SH-1

- Read ELO A above.
- Study Student Handout 1 (Appendix D).
- Complete Practical Exercise 1, questions 1-9 (Appendix C).
- Compare your responses with the solution found in the SPE-1 (Appendix C).
- If your response does not agree with the answer in the solution discussion, review SH-1.

CHECK ON LEARNING: PE-1 is the check on learning for this lesson.

B. ENABLING LEARNING OBJECTIVE

ACTION:	Identify the purpose of the records used in the Army Maintenance Management System.
CONDITIONS:	As a first sergeant, in a self-study environment, given an extract from DA Pam 738-750 (SH-2).
STANDARDS:	Identified the purpose of the records used in the Army Maintenance Management System IAW DA Pam 738-750 (SH-2).

1. Learning Step / Activity 1. Identify The Purpose Of The Records Used In The Army Maintenance Management System

Method of Instruction: Study Assignment
Technique of Delivery: Individualized, self-paced instruction
Instructor to Student Ratio: 1:14
Time of Instruction: 10 mins
Media: SH-2

- Read ELO B above.
- Study Student Handout 2 (Appendix D).
- Complete Practical Exercise 1, Questions 10-13 (Appendix C).
- Compare your responses with the solution found in the SPE-1 (Appendix C).
- If your response does not agree with the answer in the solution discussion, review SH-2.

CHECK ON LEARNING: PE-1 is the check on learning for this lesson.

C. ENABLING LEARNING OBJECTIVE

ACTION:	Identify the Unit Level Logistics System (ULLS).
CONDITIONS:	As a first sergeant, in a self-study environment, given an extract DA Pam 738-750 (SH-2).
STANDARDS:	Identified the Unit Level Logistics System (ULLS) IAW DA Pam 738-750 (SH-2).

1. Learning Step / Activity 1. Identify The Unit Level Logistics System (ULLS)

Method of Instruction: Study Assignment
Technique of Delivery: Individualized, self-paced instruction
Instructor to Student Ratio: 1:14
Time of Instruction: 10 mins
Media: SH-2

- Read ELO C above.
- Study Student Handout 2 (Appendix D).
- Complete Practical Exercise 1, Question 14 (Appendix C).
- Compare your responses with the solution found in the SPE-1 (Appendix C).
- If your response does not agree with the answer in the solution discussion, review SH-2.

CHECK ON LEARNING: PE-1 is the check on learning for this lesson.

D. ENABLING LEARNING OBJECTIVE

ACTION:	Identify the responsibilities of the commander and leaders concerning safety.
CONDITIONS:	As a first sergeant, in a self-study environment, given an extract from FM 4-30.3 (SH-3).
STANDARDS:	Identified the responsibilities of the commander and leaders concerning safety IAW FM 4-30.3.

1. Learning Step / Activity 1. Identify The Responsibilities Of The Commander And Leaders Concerning Safety

Method of Instruction: Study Assignment
Technique of Delivery: Individualized, self-paced instruction
Instructor to Student Ratio: 1:14
Time of Instruction: 5 mins
Media: SH-3

- Read ELO D above.
- Study Student Handout 3 (Appendix D).
- Complete Practical Exercise 1, Question 15 (Appendix C).
- Compare your response with the solution found in the SPE-1 (Appendix C).
- If your response does not agree with the answer in the solution discussion, review SH-3.

CHECK ON LEARNING: PE-1 is the check on learning for this lesson.

SECTION IV. SUMMARY

Method of Instruction: Study Assignment
Technique of Delivery: Individualized, self-paced instruction
Instructor to Student Ratio is: 1:14
Time of Instruction: 5 mins
Media: None

Check on Learning

PE-1 serves as the check on learning for this lesson.

Review / Summarize Lesson

We have looked at some of the responsibilities of company commanders and first sergeants. As a first sergeant you are responsible for ensuring that your soldiers have the resources, supervision, and time they need to maintain their equipment in a fully mission capable status.

SECTION V. STUDENT EVALUATION

Testing Requirements	Before entering Phase II, you will receive the end of Phase I Multiple Choice Examination that will include questions based on material in this lesson. On that examination, you must answer at least 70 percent of the questions correctly to achieve a GO.
Feedback Requirements	**NOTE:** Feedback is essential to effective learning.

STUDENT QUESTIONNAIRE

Directions Complete the following actions:

Enter your name, rank and the date you complete this questionnaire.

Name: Rank: Date:

- Answer items 1 through 6 below. Use additional pages if necessary.
- Fold the questionnaire so the address for USASMA is visible.
- Print your return address, add postage, and mail.

Note: Your response to this questionnaire will assist the Academy in refining and improving this course. When completing the questionnaire, answer each question frankly. Your assistance helps build and maintain the best Academy curriculum possible.

Item 1	Do you feel you have met the learning objectives of this lesson?
Item 2	Was the material covered in this lesson new to you?
Item 3	Which parts of this lesson were most helpful to you in learning the objectives?
Item 4	How could we improve the format of this lesson?
Item 5	How could we improve the content of this lesson?
Item 6	Do you have additional questions or comments? I you do, please list them here. You may add additional pages if necessary.

_____
_____
_____

ATTN ATSS DCF
COMDT USASMA
BLDG 11291 BIGGS FIELD
FORT BLISS, TX 79918-8002

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Appendix A - Viewgraph Masters (N/A)

Appendix B - Test(s) and Test Solution(s) (N/A)

PRACTICAL EXERCISE 1

Title

PREVENTIVE MAINTENANCE

Lesson Number / Title

R656 version 1 / PREVENTIVE MAINTENANCE

Introduction

None

Motivator

All soldiers must perform proper Preventive Maintenance Checks and Services (PMCS). You, the senior leader, must provide the time and resources to support this effort. You will be responsible for supervising operator level PMCS on all unit equipment. Most soldiers have assigned weapons, protective masks, and other equipment requiring PMCS. It is impossible to maintain equipment readiness without conducting proper PMCS.

Terminal Learning Objective

At the completion of this lesson, you [the student] will:

Action:	Identify the requirements for supervising PMCS.
Conditions:	As a first sergeant, in a self-study environment, given extracts from AR 750-1 (SH-1), DA Pam 738-750 (SH-2), and FM 4-30.3 (SH-3).
Standards:	Identified the requirements for supervising PMCS IAW AR 750-1 (SH-1), DA Pam 738-750 (SH-2), and FM 4-30.3 (SH-3).

Safety Requirements

None

Risk Assessment

Low

Environmental Considerations

None

Evaluation

Before entering phase II FSC-TATS, you will receive the end of Phase I Multiple Choice Examination that will include questions based on material in this lesson. On that examination, you must answer at least 70 percent of the questions correctly to achieve a GO.

Instructional Lead-In

None

Resource Requirements

Instructor Materials:

None

Student Materials:

R656

Special Instructions

Do not use any reference material or refer to the solution until after you complete the items in this practical exercise (PE).

Procedures This is a self-graded exercise.

Question 1 Responsibilities of commanders and leaders include emphasizing the importance of maintenance and _____.

A. evaluating the maintenance program.
B. evaluating AOAP procedures.
C. helping the motor sergeant get repair parts.
D. holding subordinates accountable.

Question 2 How many maintenance standards does the Army have?

A. One.
B. Two.
C. Three.
D. Four.

Question 3 Which of the following is a characteristic of unit level maintenance?

A. It provides highly mobile, weapon-system oriented maintenance.
B. It provides one-step service to supported units.
C. The mechanics use TM -10 and -20 series.
D. The mechanics use TM -10 and -30 series.

Question 4 Which of the following is a characteristic of general support maintenance?

A. A TDA unit performs the maintenance.
B. It provides one-step service to supported units.
C. It supports both combat forces and the Army supply system.
D. Its location is at echelon above corps.

Question 5 Two objectives of the Army Oil Analysis Program, outlined in AR 750-1, are to detect impending component failures and to_____.

A. give DS units work.
B. improve maintenance response.
C. make sure everyone is using OE 30 oil.
D. promote safety.

Question 6 What publication governs maintenance of material under warranty?

A. AR 670-1.
B. AR 700-139.
C. FM 22-5.
D. FM 9-43-1.

Question 7 The only authorized maintenance float in the Army is _____.

A. the operational readiness float (ORF).
B. the return cannibalization float RCF).
C. the return completed float (RCF).
D. the return fixed float (RFF).

Question 8 The purpose of battlefield damage assessment and repair is to rapidly return equipment to combat or _____.

A. destroy it in place.
B. disable it so enemy can't use it.
C. enable equipment to self-recover.
D. have the maintenance crew tow it away.

Question 9 Who performs the first level of maintenance tasks on vehicles?

A. Maintenance technician.
B. Master gunner.
C. Operator.
D. Unit mechanic.

Question 10 Maintenance records control maintenance schedules and services, workloads, and _____.

A. equipment available for field duty.
B. inspections.
C. PLL repair parts.
D. vehicle dispatches.

Question 11 The dispatcher is responsible for checking operator's OF 346 or DA Form 5984-E and _____.

A. logging equipment in and out of DA Form 1970.
B. making requests for equipment.
C. reporting differences in stated and actual destinations.
D. PLL repair parts.

Question 12 DD Form 1970 (Motor Equipment Utilization Record) controls the use of vehicle equipment and_____.

A. determines AOAP dates.
B. determines service dates.
C. records PMCS dates.
D. records total operating time of equipment.

Question 13 DA Form 2401 (Organizational Control Record for Equipment) is a record of _____of equipment on dispatch or in use.

A. operators and location
B. operators and type
C. type and amount
D. type and unit of origin

Question 14 The purpose of the Unit Level Logistics System (ULLS) is to collect maintenance and _____.

A. eliminate portions of The Army Maintenance Management Program (TAMMS).
B. automate/replace portions of TAMMS.
C. automate PMCS procedures.
D. replace TAMMS with TULLS.

Question 15 To support the unit safety program, the commander must do which of the following?

A. Appoint a unit safety officer.
B. Conduct safety seminars on post.
C. Make safety pledges.
D. Make safety slogans.

Feedback Requirements None

SOLUTION FOR
PRACTICAL EXERCISE 1

Question 1 The correct response is:

D. Holding subordinates accountable.

Ref: AR 750-1, para 2-16c(1), SH-1

Question 2 The correct response is:

A. One.

Ref: AR 750-1, para 3-2a, SH-1

Question 3 The correct response is:

C. The mechanics use TM -10 and -20 series.

Ref: AR 750-1, para 3-14c, SH-1

Question 4 The correct response is:

D. Its location is at echelon above corps

Ref: AR 750-1, para 3-16a(4), SH-1

Question 5 The correct response is:

D. Promote safety

Ref: AR 750-1, para 7-2, SH-1

Question 6 The correct response is:

B. AR 700-139

Ref: AR 750-1, para 7-3a, SH-1

Question 7 The correct response is:

A. Operational readiness float (ORF).

Ref: AR 750-1, para 7-6a, SH-1

Question 8 The correct response is:

C. Enable equipment to self-recover

Ref: AR 750-1, 7-7a, SH-1

Question 9 The correct response is:

C. Operator

Ref: AR 750-1, para 3-14 a and b, SH-1

Question 10 The correct response is:

B. Inspections

Ref: DA Pam 738-750, para 1-5 b, SH-2

Question 11 The correct response is:

C. Reporting differences in stated and actual destinations

Ref: DA Pam 738-750, para 2-2 c (8) , SH-2

Question 12 The correct response is:

D. Records total operating time of equipment

Ref: DA Pam 738-750, para 2-5 b (2), SH-2

Question 13 The correct response is:

A. Operators and location

Ref: DA Pam 738-750, para 2-6 a, SH-2

Question 14 The correct response is:

B. Automate/replace portions of TAMMS.

Ref: DA Pam 738-750, para 12-1b, SH-2

Question 15 The correct response is:

A. Appoint a unit safety officer

Ref: FM 4-30.3, para 8-6, SH-3

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HANDOUTS FOR LESSON: R656 version 1

This appendix contains the items listed in this table---

Title/Synopsis	Pages
SH-1, Extract from AR 750-1	SH-1-1
SH-2, Extract from DA Pam 738-750	SH-2-1
SH-3, Extract from FM 4-30.3	SH-3-1

Student Handout 1

Extracted Material from AR 750-1

This student handout contains 24 pages of extracted material from the following publication:

AR 750-1, Army Material Maintenance Policy, 18 Aug 2003

Chapter 1	page 1
Chapter 2	pages 5 thru 7
Chapter 3	pages 11,17 thru 25, 28, and 29
Chapter 5	pages 51 and 55
Chapter 7	pages 66 thru 68, 70 thru 72

Disclaimer: The training developer downloaded the extracted material from the United States Army Publishing Agency Home Page. The text may contain passive voice, misspellings, grammatical errors, etc., and may not be in compliance with the Army Writing Style Program.

Chapter 1
Introduction

1–1. Purpose

a. This regulation establishes policies and assigns responsibilities for the maintenance of Army materiel. It provides and defines requirements for performance and management of the materiel maintenance function. It concerns unit, direct support (DS), general support (GS), and depot levels of the Army maintenance system and Army-wide program and commodity-unique maintenance. This regulation also applies to maintenance of all materiel owned or supported by the U.S. Army, except the following:

(1) Materiel purchased with nonappropriated funds, special intelligence property administered per Army Regulation (AR) 381–143, real property, or foreign materiel used for training.

(2) Leased/rented materiel, unless the lease/rental agreement dictates otherwise.

(3) Those aspects of combat and materiel development that impact the materiel maintenance function.

(4) Materiel maintenance as implemented in the AR 12–series publications.

b. The provisions of this regulation are applicable to all Army-funded property under the direct control of the U.S. Army Corps of Engineers. Civil-funded property under the control of the U.S. Army Corps of Engineers is exempt from the provisions of this regulation; however, these provisions may be used when considered to be in the best interest of the Government.

1–2. References

Required and related publications and prescribed and referenced forms are listed in appendix A.

1–3. Explanation of abbreviations and terms

Abbreviations and terms used in this publication are explained in the glossary.

1–4. Responsibilities

Responsibilities are listed in chapter 2.

1–5. Exceptions

A request for exception to any provision of this regulation will be submitted through command channels to DCS, G–4, ATTN: DALO–SMM, 500 Army Pentagon, Washington, DC 20310–0500, unless otherwise specified in this regulation. Requests for exception to policy specific to the Army National Guard (ARNG) will be submitted to the State Adjutant General, then through the Chief, National Guard Bureau (CNGB) to HQDA (DALO–SMM). All requests for exception to this regulation will, at a minimum, recommend alternative course(s) of action.

Chapter 2
Responsibilities

2–1. Assistant Secretary of the Army (Financial Management & Comptroller)

The Assistant Secretary of the Army (Financial Management & Comptroller) (ASA(FM&C)) will—

a. Develop and prescribe financial policy and procedures for the use of appropriated funds and nonappropriated maintenance funds.

b. Develop and prescribe financial policy and procedures for the use of depot maintenance funds.

c. Monitor the execution of depot maintenance funds.

d. Prepare, present, and defend the depot maintenance budget.

e. Participate in the program development process through membership in the Program Evaluation Group (PEG).

f. Provide representation, as the chief financial officer, to the Army Depot Maintenance Corporate Board (DMCB). (See para 2–4*r*.)

2–2. Assistant Secretary of the Army (Acquisition, Logistics, & Technology)

The Assistant Secretary of the Army (Acquisition, Logistics, & Technology) (ASA(ALT)) will—

a. Be responsible for the acquisition function and acquisition management system of the Department of the Army (DA).

b. Co-chair the Army Systems Acquisition Review Council (ASARC).

c. Establish reliability, availability, and maintainability (RAM) exit criteria in system-specific acquisition decision memorandum (ADM).

d. Approve type classification of systems as part of the milestone III, full rate production, ADM per AR 70–1.

x. Evaluate and resolve technical and maintenance problems reported by using units through deficiency reports.

y. Manage and execute the National Maintenance Program (NMP).

z. Manage and update SKOT. The outline guidance and procedures for acquisition, maintenance, and disposition of SKOT are contained in DA Pam 700–60.

aa. Establish theater foundation logistics support element (LSE) for coordination of USAMC maintenance support provided to the theater.

ab. Monitor compliance with depot maintenance core policy. Use DOD-approved methodology to determine core depot maintenance requirements to ensure Army depots maintain sufficient core capability.

ac. Provide two members to the Army DMCB; chief operating officer and one additional board member.

ad. Serve as a member of the HQDA AMB.

2–15. Materiel developers

MATDEVs as identified in AR 700–127 will—

a. Coordinate with CBTDEVs the materiel maintenance considerations to be included in requirement documents.

b. Ensure that the materiel fielding plan meets the requirements of the Army maintenance system.

c. Ensure that reliability, availability, and maintainability is included in design parameters and demonstrated during operational testing.

d. Ensure that reliability centered maintenance (RCM) is a basic precept in developing the maintenance concept.

e. Determine, in coordination with the designated MSC, the source of repair for depot-level maintenance (such as organic or contract).

f. Ensure ILS/logistic support analysis (LSA) results are incorporated in initial maintenance planning/development concepts.

g. Ensure that trained personnel, TMDE, facilities, specialized tools, support equipment, repair parts, and publications are available when the system is delivered to the user.

h. Participate in planning and conducting logistics demonstrations and operational maintenance testing.

i. Establish and monitor modification work order (MWO) programs per AR 750–10.

j. Develop BDAR techniques, procedures, and related tool and materiel requirements in accordance with CBTDEV. The developers will also ensure BDAR concepts are incorporated into new materiel development.

k. Develop factors for determining ORF requirements. These factors will be submitted to HQDA (DALO–SMM) for approval.

l. Emphasize embedded diagnostics and embedded prognostics in the design, development, and improvement of equipment.

m. Ensure that data collected from all levels of maintenance are analyzed and used for prognostic purposes.

n. Ensure that equipment is designed with the need for a minimum number of common and special tools.

o. Support the SDC program as required in paragraph 7–4.

p. Establish and maintain an age exploration program.

q. Include requirements for compliance with Federal environmental quality standards for equipment procured and supported by the Army (in accordance with AR 200–1).

r. Provide qualitative and quantitative personnel requirement information and basis-of-issue plan (BOIP) feeder data to the CBTDEV to facilitate planning for distribution of operator and support personnel and support equipment.

s. Implement the Manpower Requirements Criteria Program. (AR 71–32 provides guidance.)

t. Ensure that modifications to Army equipment are applied and reported in accordance with AR 750–10.

2–16. Army commands (active component)

a. Major Army commanders will—

(1) Ensure that maintenance supports readiness. Commanders at all levels will be held accountable for the conduct of maintenance operations.

(2) Ensure evaluation of maintenance is included in the Command Inspection Program.

(3) Ensure that subordinate commanders comply with the policies in this regulation. One copy of any implementing instructions will be sent to Deputy Chief of Staff, G–4, ATTN: DALO–SMM, 500 Army Pentagon, Washington, DC 22310–0500.

(4) Ensure that maintenance operations at all levels within their command are properly supervised.

(5) Establish and supervise training programs for equipment operators/crews and maintenance personnel in the conduct of maintenance operations.

(6) Provide timely and accurate cost, readiness, and maintenance data to management systems.

(7) Acquire and maintain a self-sufficient military capability and capacity for unit, DS, and GS maintenance in support of combat, combat support, and combat service support elements.

(8) Program funds for unit, DS, and GS levels of maintenance and rank any unfinanced requirements.

(9) Ensure that maintenance is performed at the lowest level possible according to MACs. This process must preclude table of distribution and allowances (TDA) maintenance activities from absorbing maintenance workload that should be performed at modification table of organization and equipment (MTOE) unit, DS, and GS levels of maintenance.

(10) Minimize the number of TDA maintenance operations to reduce resource requirements without adversely impacting operational and contingency requirements. Ensure that there is only one IMMA on an installation. Installation commanders may consolidate Director of Logistics (DOL) and Director of Engineering and Housing (DEH) (or Director of Public Works (DPW)) maintenance operations when cost-effective.

(11) Evaluate all available methods of support before forwarding requests from subordinate commanders for establishment of IMMAs and satellite materiel maintenance activities (SMMAs). Examples of support methods are the IMMA Memorandum of Understanding (MOU) or Memorandum of Agreement (MOA), ISSA, or contract. Submit requests to establish and discontinue IMMAs, SMMAs, and equipment maintenance missions (EMMs) to Deputy Chief of Staff, G–4, ATTN: DALO–SMM, 500 Army Pentagon, Washington, DC 22310–0500, per DA Pam 750–13.

(12) Comply with materiel maintenance standards and maintenance-related logistical performance and readiness standards.

(13) Coordinate all requirements for TMDE procurement with the PM TMDE per AR 750–43.

(14) Establish a warranty control office/officer to implement the Army Warranty Program per AR 700–139.

(15) Comply with all local, regional, and national regulations governing the inspection and maintenance requirements for prevention of pollution from mobile equipment. (AR 200–1 provides guidance.)

(16) Provide air traffic control materiel support.

(17) Establish an effective corrosion prevention and control program for assigned equipment per AR 750–59.

(18) Determine if reimbursement for fabrication services of DS, GS, or installation maintenance activities is authorized.

(19) Carry out quality programs under the provisions of AR 70–1 for assigned maintenance and calibration operations.

(20) Designate points of contact (POCs) for the SRA, SDC, MWO, AOAP, unique item tracking (UIT), and maintenance float programs.

(21) Assist executive agent and USAMC MSCs as required in establishing and conducting SDC projects that are implemented in the MACOM.

(22) Ensure subordinate commanders with sustainment maintenance missions comply with NMP business procedures when scheduling and executing sustainment maintenance operations.

(23) Ensure that support installations provide maintenance support to the U.S. Army Reserve (USAR) when required within the geographical boundaries established by AR 5–9.

b. Commander, U.S. Forces Command (FORSCOM) in support of the USAR will—

(1) Conduct a continuing analysis and evaluation of the USAR Materiel Maintenance Program to ensure that the objectives of the program are attained by all subordinate commands.

(2) Authorize resources to those TDA maintenance activities established by the U.S. Army Reserve Command (USARC) in the continental United States (CONUS) to support the USAR Materiel Maintenance Program. AR 570–4 will be used as a guide for determining manpower requirements of maintenance activities.

(3) Maintain Army BASOPS communications-electronics (CE) equipment; other assigned automation, communication, printing, audio-visual and records management equipment; and the Army portion of the Defense Communication System.

(4) Maintain information systems at INSCOM sites.

c. Commanders at all levels will—

(1) Emphasize the importance of safety and maintenance and ensure that subordinates are held accountable for the conduct of maintenance operations. Maintenance is a command responsibility.

(2) Provide leadership, technical supervision, and management control of materiel maintenance programs of subordinate commands and activities.

(3) Emphasize the conduct and supervision of PMCS performed at unit level. Materiel will be maintained at the maintenance standard specified in paragraph 3–2.

(4) Develop and sustain a high degree of maintenance discipline within their commands, including management of repair parts per AR 710–2.

(5) Establish, maintain, and conduct training of operators, crews, and maintenance personnel to properly use and maintain equipment.

(6) Establish, maintain, and conduct training of leaders at all levels to properly supervise maintenance operations and to motivate subordinates to properly and safely use and maintain equipment.

(7) Exercise management controls sufficient to ensure prudent and efficient use of all resources (people, money, materiel, and time) required to perform assigned maintenance missions.

(8) Conduct inspections and staff visits to determine the adequacy of command maintenance operations. Document all faults to ensure that corrective actions are taken and to ensure the accuracy of readiness reports.

(9) Provide materiel maintenance support to all assigned units and activities.

(10) Recommend improvements to the Army maintenance system.

(11) Comply with the provisions of AR 750–43 for all TMDE used in support of maintenance operations.

(12) Ensure that the submissions of quality deficiency reports (QDRs) and equipment improvement recommendations (EIRs) are accomplished per DA Pam 738–750 (ground support and watercraft) or DA Pam 738–751 (aircraft/aviation equipment).

(13) Encourage establishment of an aggressive awards program for operators and maintainers.

(14) Implement an effective quality program per AR 70–1. Quality programs will be defined, quantified, specified, measured, and assessed.

(15) Ensure that all unit-level PMCS, including all DS-level services, are scheduled and performed as required by the 10– and 20–series technical manuals (TMs).

(16) Ensure prompt compliance with requirements dictated by safety-of-use messages in accordance with AR 750–6 and AR 95–1.

(17) Ensure that sufficient numbers of personnel are trained in various BDAR skills so that combat resilience requirements can be met in wartime operations.

(18) Support the SDC program, when implemented, by providing proponent agency contractor personnel reasonable access to equipment and data relevant to the SDC project.

(19) Emphasize the prompt movement of unserviceable reparables to maintenance.

(20) Appoint logistics readiness officers.

(21) Support the implementation of the NMP.

(22) Ensure modifications to assigned equipment are done in compliance with AR 750–10.

d. Installation commanders in support of the USAR will—

(1) Provide DS, GS, and aviation intermediate maintenance (AVIM) as required for USAR units and maintenance activities located in the installation support area; in-house and contractor maintenance will be provided as stipulated in AR 5–9 and within this regulation.

(2) Provide logistical support to USAR units during annual training (AT), as required.

(3) Maintain an effective liaison program to the supported USAR maintenance activities, including ground, air, watercraft, rail, and water and petroleum within the logistical area of responsibility.

(4) Provide for backup equipment recovery support from commercial sources through the efforts of the supporting installation. Costs will be provided through Operation and Maintenance, Army Reserve (OMAR) program elements.

(5) Ensure compliance with NMP business procedures when scheduling and executing sustainment maintenance operations.

2–17. U.S. Army Reserve

a. The Chief, Army Reserve will—

(1) Develop materiel maintenance plans, policies, programs, and budgetary requirements pertaining to the USAR.

(2) Manage the USAR Depot Maintenance Program.

(3) Develop, program, budget, and defend depot maintenance requirements for USAR materiel.

(4) Coordinate USAR depot maintenance requirements determination with USAMC MSCs to ensure USAR depot maintenance is programmed in depot-maintenance workload projections.

(5) Coordinate all MOUs/MOAs involving depot maintenance of USAR materiel.

(6) Develop a depot maintenance requirement determination process for USAR materiel consistent with policy and guidance in this regulation.

(7) Provide representation to the Army DMCB.

b. The Commander, USARC will command USAR commands in CONUS and provide administrative, logistical, and technical assistance to OCONUS USAR units in support of Army materiel maintenance programs and will—

(1) Ensure that maintenance supports readiness. Commanders at all levels will be held accountable for the conduct of maintenance operations.

(2) Ensure evaluation of maintenance is included in the Command Inspection Program.

(3) Ensure that any implementing instructions are sent to Deputy Chief of Staff, G–4, ATTN: DALO–SMM, 500 Army Pentagon, Washington, DC 22310–0500.

(4) Ensure that maintenance operations at all levels within their command are properly supervised.

(5) Establish and supervise training programs for equipment operators/crews and maintenance personnel in the conduct of maintenance operations.

(6) Provide timely and accurate cost, readiness, and maintenance data to management systems.

leverages scheduled service time to maintain equipment service life and increase readiness. This supports wartime readiness and training.

(3) Fault repair is the process taken by operators and maintenance personnel to repair an equipment item, restoring it to full functionality as originally designed or engineered. Faults include deficiencies and shortcomings. The Army uses trained personnel, TMDE, technical information, and tools to accomplish this process. Fault repair is based on a mechanic/technician accurately diagnosing all equipment, component, assembly, and subassembly malfunction the first time, ordering the correct repair parts, and applying them immediately. The Army prioritizes repair of deficiencies based upon criticality. The goal of the Army is to correct all deficiencies and shortcomings as they occur. The correction of all faults, deficiencies, and shortcomings as established by Army TMs is the basis for the Army standard.

(4) Single-standard overhaul is a repair process that seeks to ensure a single repair standard is applied to all secondary items and components for all class IX components repaired and returned to supply. This process ensures common component quality and predictable service life using the best technical standard. This ensures that users do not waste manpower resources troubleshooting failures and replacing components needlessly. For specific guidance on single standard repair, see paragraph 7–13.

b. To meet its transformation objectives, the Army is developing an emerging maintenance policy for reducing the forward deployed logistics footprint. This emerging "replace forward, repair rear" policy will replace the Army's current "fix forward" policy for future Army units. This policy is required to sustain future combat units at high levels of mission readiness while having a smaller logistics footprint in forward areas. Additionally, given the continuing merger of what we know today as "organizational" and "direct support" maintenance as is evident in the design of force twenty-one (FXXI) and striker brigade combat team units, and the emergence of an NMM for all component repair at installation/theater and depot level, the Army is examining the elimination of our current four-level maintenance system in favor of a more-simplified two-level maintenance system.

c. The Army allocates resources to commanders to maintain its equipment at prescribed readiness levels. Commanders apply manpower and equipment resources, allocated dollars, and The Army Maintenance Management System (TAMMS) to perform maintenance on Army equipment. When resources are allocated and applied correctly, unit commanders will realize the useful service life of their equipment and achieve prescribed readiness levels.

3–2. The Army maintenance standard

a. The Army has one maintenance standard. Army equipment meets the maintenance standard when the following conditions exist:

(1) The equipment is fully mission capable (FMC).

(2) All faults are identified following prescribed intervals using the "items to be checked" column of the applicable TM 10– and 20–series PMCS table. Aviation faults are determined by using the aircraft preventive maintenance inspection and service (PMIS) per TM 1–1500–328–23.

(3) All repairs, services, and other related work that will correct unit-level equipment/materiel faults for which the required parts/supplies are available have been completed in accordance with DA Pam 738–750 or DA Pam 738–751.

(4) Parts and supplies required to complete the corrective actions, but which are not available in the unit, are on a valid funded requisition in accordance with AR 710–2.

(5) Corrective actions that are not authorized at unit level by the MAC must be on a valid DS maintenance request (DA Form 2407/5990–E).

(6) Scheduled services are performed at the service interval required by the applicable technical publication. Due to competing mission requirements, units are authorized a 10 percent variance when performing scheduled services. Procedures to apply this variance are found in DA Pam 738–750 for ground equipment and TM 1–1500–328–23 for aviation equipment. (afloat prepositioning ships (APS)–Afloat is excluded from this variance requirement.)

(7) All emergency and urgent MWOs are applied to equipment in accordance with AR 750–10. In addition, actions required by one-time safety-of-use messages and emergency safety-of-flight messages are completed per AR 750–6 and AR 95–1.

(8) All authorized BII and COEI are present and serviceable or on a valid supply request. For aircraft, all authorized flyaway items and items listed on the aircraft inventory master guide are present and serviceable or on a valid supply request.

b. The maintenance standard is based on TM 10– and 20–series PMCS.

c. The Army maintenance standard applies to all equipment except equipment used as training aids that require frequent disassembly and assembly.

d. Proper use, care, handling, and conservation of materiel per applicable technical publication are mandatory.

3–3. Total logistics response time and maintenance turnaround time

a. All Army MTOE, TDA, and contract maintenance operations will provide maintenance services within the timeframe required by requesting organization commanders. The time required for maintenance organizations to respond to user organization requests for maintenance services will be determined and assigned by following the policy

organizations, including their maintenance operations, will be programmed and submitted in POM packages to HQDA in accordance with the HQDA Resource Formulation Guide.

3–5. Maintenance records

a. Accuracy and completeness of records are fundamental to the ability of the Army to manage maintenance programs. Commanders will assure that records of maintenance operations are accurate and complete. Resource requirements submitted in accordance with paragraph 3–3 will be based upon command historical records and such Army information resources as the LIDB and Operating and Support Management Information System (OSMIS). Records from such AIS as ULLS, SAMS, Global Combat Support System–Army (GCSS–A), Standard Depot System, or other HQDA-approved systems may also be used.

b. Historical records and other reports of maintenance operations will be promptly forwarded as required to information resources such as the LIDB in accordance with DA Pam 738–750 and DA Pam 738–751. (See para 4–14.)

c. Organizational and DS/GS maintenance information will be maintained and accessible from the WOLF module of LIDB and from other available database files. WOLF information will be made available to various users Army-wide for planning, programming, budgeting, program execution, and logistics management purposes. (See para 4–14 of this regulation for more information on WOLF.)

d. Historical information on depot maintenance operations will be archived by USAMC and provided on demand to appropriate users.

3–6. General policies

a. An officer or civilian equivalent qualified in maintenance management will be appointed as maintenance officer, in writing, at each level of command. Maintenance officers will provide staff supervision of materiel maintenance operations within the organization. MTOE units that have insufficient officers for these duties may appoint a qualified noncommissioned officer as the maintenance officer.

b. Standing operating procedures (SOPs) will be established and maintained by all Army organizations and activities performing maintenance operations.

c. Maintenance support programs will be structured to meet materiel system readiness objectives as defined by AR 700–138.

d. Army design priorities in the development of new weapon and equipment end items include embedded diagnostics and prognostic capabilities, modular design, and replacement at the point of failure. The top design priority is the application of embedded diagnostics and prognostics. All Army program/project managers and materiel developers will assure that they include embedded diagnostics and prognostics on all new and upgraded weapon systems and coordinate this with the program manager TMDE. The Army will not field systems or upgrade equipment without embedded diagnostics and prognostics. Design features will minimize repair time and reduce operations and sustainability costs and the need for additional special tools by developing accurate first-time fault diagnosis and component replacement.

e. Repair will be done by replacing components at the point of failure, whenever possible, using the lowest level maintenance activity that has the capability and authority to perform the work.

f. Maintenance operations will be performed by military personnel in areas that are forward of the division rear boundary in deployed organizations except as outlined below. A workforce that is comprised of military, government civilian, and/or contractor maintenance organizations may perform maintenance operations that are in garrison locations.

(1) Contractor maintenance personnel will not be permanently stationed in areas forward of the division rear boundary. (Also see AR 715–9.) Contractor maintenance personnel may travel forward of the division rear boundary on a case-by-case basis, as approved by the responsible area commander, to provide temporary on-site maintenance support. Civilian maintenance personnel such as contractors, government employees, local nationals, and so forth, may be authorized by the theater commander to be stationed behind the division rear boundary after an appropriate risk assessment has been performed.

(2) In garrison locations, contractors and contracted maintenance services are authorized to supplement manpower shortfalls in MTOE organizational and DS/GS maintenance when commanders determine that their organic maintenance capability cannot perform to the required standard. Commanders will not augment maintenance operations at the expense of soldier readiness and proficiency in their MOS. MACOM commanders will address contract maintenance requirements during the planning, programming, and budgeting process as outlined in paragraph 3–4.

g. All Army maintenance operations will be conducted in accordance with the environmental security provisions of AR 200–1 and the underlying Federal, State, and local laws and directives. Commanders will aggressively support environmental protection programs and policies in their maintenance and supply operations. Commanders will use the DA standard environmental security AIS for hazardous materials and hazardous waste management to assist them in complying with Federal, State, and local environmental laws and regulations while accomplishing their maintenance support missions. Commanders desiring exemption to the requirement for use of the Army standard environmental security software must submit requests through their MACOM to HQDA, ATTN: OACSIM.

h. Commanders will establish policies for the evacuation of unserviceable equipment that are based, in part, on maintenance time standards and maintenance capabilities outlined in the MAC.

i. MACOM commanders may authorize the fabrication of repair parts and components based on valid supply requisitions that cannot be obtained through the supply system in time to meet the requester's RDD. Aircraft components that are critical to flight safety, and any other weapon system component designated as a safety related item, are not authorized to be fabricated. Fabrication of parts will not be made for the sole purpose of returning items to stock.

j. Modification or alteration of Army materiel is forbidden, except as authorized by AR 750–10. Modification of equipment outside of the factory must be accomplished via a documented, official MWO. Commanders will not allow their equipment to be modified except under the provisions of a valid MWO.

k. The Army will, to the maximum extent possible, use common maintenance terminology and data in maintenance management programs and literature.

(1) The Commander, TRADOC will ensure that doctrinal, training, and leader development literature keeps pace with approved maintenance management programs and terminology.

(2) HQDA (DALO–SM) will coordinate with the Office of the Secretary of Defense (OSD) and other military departments and Services to develop common maintenance management and logistics terminology for use in Army maintenance management documents.

l. All end items and class IX reparable items (Army master data file (AMDF) price greater than $1,000) with a maintenance repair code MRC of F, H, D, or L will have a permanent serial number affixed to that item.

m. The serial number assigned to an item will not be changed, regardless of changes in configuration, without written approval by the applicable commodity command. Serial numbers are mandatory entries in the indicated data fields of all maintenance management forms.

n. TMDE will be calibrated per DA TMDE Calibration and Repair Support Program. (See AR 750–43 for detailed guidance.)

o. Quality control must be fully integrated into maintenance operations to ensure—

(1) The identification of equipment faults.

(2) Compliance with repair procedures and equipment standards contained in the TMs and equipment-specific publications.

3–7. Priorities

a. This policy outlines the assignment of maintenance priorities within TAMMS. Army maintenance tasks and operations will be conducted in established maintenance mission priority sequence, based ultimately upon the mission of the requesting organizations and the relevance and importance of the maintenance work that must be done. In the Army's overall logistics management system, relevance and importance are expressed as urgency of need. Requesting organization commanders will determine the appropriate maintenance priority on any work request, based upon the organizations urgency of need and urgency of need designator (UND). Once the UND has been selected, it will be used in table 3–1 to identify the correct maintenance priority designator (MPD). Table 3–2 indicates the Army maintenance TAT standard (upper limit) that is associated with the customer MPD that is entered on a work order.

Table 3–1
Priority designator (relating force/activity designator to urgency of need)

Force activity designators (FADs)	Urgency of need designators (UND)		
	A	B	C
I	01	04	11
II	02	05	12
III	03	06	13
IV	07	09	14
V	08	10	15

Table 3–2
Maintenance priority designator and turnaround time standards

MPD	TAT standard
01–03	5 days
04–08	8 days
09–15	30 days[1]

Notes:
[1] Customer organizations may specify a required delivery date that is longer than 30 days when mission schedules permit.

b. UND A will be assigned to unserviceable equipment under the following circumstances:

(1) The unit/activity is unable to perform its assigned operational mission.

(2) Materiel to be repaired is MTOE equipment that is reportable under AR 220–1 and TDA equipment that is reportable under AR 700–138 and listed on the current maintenance master data file (MMDF) received from LOGSA.

(3) The unit/activity is unable to perform assigned training missions.

(4) Repair of essential facilities of an industrial/production activity manufacturing, modifying, or maintaining mission-essential materiel is required.

(5) The materiel is an intensively managed or critical item.

c. UND B is used in assignment of maintenance priorities for repair of materiel when—

(1) The unit/activity's ability to perform its assigned operational mission is impaired. Without such materiel, the unit/activity may temporarily accomplish assigned missions, but at reduced effectiveness and efficiency below the level of acceptable readiness.

(2) The materiel is equipment readiness code (ERC)–A or ERC–B materiel and is not reportable under AR 220–1 or AR 700–138 or listed on the current MMDF (for example, not reportable on DA Form 2406, DA Form 3266–1 (Army Missile Materiel Readiness Report), or DA Form 1352 (Army Aircraft Inventory, Status, and Flying Time)).

(3) USAR and ARNG TDA maintenance activities are authorized to upgrade the UND when a not mission capable (NMC) deficiency is found. Only NMC parts are requisitioned when upgraded.

d. UND C is used in assignment of maintenance priorities for all other materiel not listed above, including ERC C materiel.

e. Maintenance units/activities manage repair of materiel by maintenance priority designator and analysis of impact on unit readiness. The usual sequence of work will be to repair the oldest job with the highest priority first. However, analysis of unit materiel readiness may dictate resequencing maintenance work.

f. As a general rule, an issue priority designator (IPD) used on a requisition perpetuates the maintenance priority designator assigned on DA Form 2407. AR 725–50 describes in detail supply priority designators.

3–8. Maintenance of low usage equipment

a. Services for equipment that have accumulated or are anticipated to be less than 65 percent of the mileage/hours of operation specified in DA Pam 738–750, chapter 3, may have unit (20–series) and DS services (34–series) extended. Use of low-usage criteria does not relieve commanders of the responsibility for adequate maintenance of their equipment.

b. All service and lubrication tasks in the equipment's 20– and 34–series TMs/lubrication orders (LOs) must be performed before the equipment is placed in low-usage status. The date, miles, kilometers, or hours when the equipment was placed into low-usage status will be entered on the DD Form 314 or ULLS-equivalent form.

c. Equipment that exceeds the specified criteria at any time during the year will be immediately returned to scheduled servicing at normal TM/LO intervals from the date and usage data that was entered in the DD Form 314 or electronic ULLS-equivalent form.

d. Servicing, evaluating, and exercising recoil mechanisms and gun tubes will be done per applicable technical bulletins (TBs) and TMs.

e. Communications and other subsystems mounted on equipment in low-usage status will be serviced when the primary system is serviced.

f. Low-usage equipment service standards do not apply to armament subsystems, equilibrating systems, fire control components, sighting components of combat vehicles and missile systems, and air traffic control equipment.

g. Operator/crew level (10–series) maintenance intervals in TMs/LOs will not be changed to low usage.

h. The AOAP schedule will not be extended.

i. Specific criteria for equipment being placed in a low-usage status are—

(1) Tactical vehicles and all trailers that have accumulated or are anticipated to accumulate less than 65 percent of the listed equipment utilization rate in accordance with DA Pam 738–750, chapter 3.

(2) Combat vehicles (except armament, equilibrating systems, fire control components, and sighting components), missile systems (except fire control components), material handling equipment, and construction equipment anticipated to accumulate less than 65 percent of the listed equipment utilization rate in accordance with DA Pam 738–750, chapter 3.

(3) Generators; pumps; air compressors; support equipment (reserve osmosis water purification unit (ROWPU), bath units, and so on); watercraft; rail equipment; power-driven nuclear, biological, chemical (NBC) equipment; engine driven heaters; and air conditioners anticipated to accumulate less than 75 hours in the current year.

(4) Communication equipment in communication shelters anticipated to accumulate less than 75 hours of operation in the current year. All remaining communications equipment, such as ground/vehicle mounted radios, switchboards, and so forth, will be serviced annually if they are anticipated to accumulate less than 75 hours of operation in the current year. Hours of operation are estimates only and are not intended to be formally tracked.

(5) Non-power-driven NBC equipment anticipated to accumulate less than 75 hours of operation in the current year.

(6) Tenting and canvas items, immersion heaters, field ranges, and space heaters or stoves that are not used will be erected or assembled annually.

(7) Small-arms and crew-served weapons (machine guns, mortars, and so forth) that are maintained in a humidity-controlled area and not removed (for any reason) at any time during the year will be serviced annually.

j. All equipment, except that stated in (6) and (7), above, will be inspected/exercised by operators semiannually. Inspection/exercise will include the following:

(1) Ensure that PMCS (through monthly) are being performed.

(2) Tactical vehicles and trailers and combat vehicles will be driven at least 5 miles to ensure mission capability. Mounted radios will have all PMCS (except semiannual and annual checks and services) performed per the communication equipment operator's TM.

(3) Construction, engineer, and materiel handling equipment, wreckers, and combat vehicles will be operated sufficiently to ensure hydraulic systems reach operating temperature and are mission capable.

(4) Generators, air compressors, support equipment, pumps, and power-driven NBC equipment will be operated for 30 minutes under load or 1 hour no load.

(5) Small-arms and crew-served weapons will be inspected, without leaving humidity-controlled room, for rust and corrosion. High-humidity-area inspections may be required more often.

(6) Visual inspections will be performed by the operator/crew to identify, report, or remove any new corrosion that may have formed.

3–9. Maintenance of medical material

Maintenance policies, programs, and procedures unique to medical materiel will be maintained in accordance with AR 40–61.

3–10. Maintenance of consolidated express and military-owned demountable containers

Consolidated express (CONEX) and military-owned demountable containers (MILVANs) are maintained within the capability of the using unit or activity. Additional maintenance policies are contained in DOD 4500.9–R, Part II.

3–11. Maintenance of facilities engineering equipment

Maintenance policies and procedures unique to those non-type-classified and nonstandard items of equipment used by DEH or DPW personnel to accomplish their installation's facilities engineering mission are contained in AR 420–18.

3–12. Turn-in policy for serviceable excess and unserviceable reparable parts and components

a. Unserviceable reparable items will be turned in to supporting supply support activities (SSAs) in an expeditious manner consistent with the cost of the items and their criticality to Army readiness programs.

b. All Army commanders and maintenance managers will ensure that critical items, intensively managed items, and automatic return items are returned to turn-in channels within the timeframes established by applicable directives and as required by AR 710–2 and AR 725–50. Commanders will use management information and reports from supply and maintenance management automated information systems, such as ULLS, SAMS, and Standard Army Retail Supply System (SARSS), to assist them in meeting the turn-in time standards.

(1) Using units will turn in unserviceable recoverable parts and assemblies to the supporting SSA within 72 hours of identification, classification, and/or removal from the end item. Serviceable excess will be turned in to the SSA within 72 hours of change to excess status. This policy implements provisions of AR 710–2 on disposal of materiel for the return of excess and not reparable this station (NRTS) repair parts to supply and maintenance channels.

(2) DS and GS organizations and activities will turn in serviceable excess and NRTS reparable items to the supporting SSA within 72 hours of completion of the maintenance tasks that removed the component from the end item and that classified the component as NRTS. This policy implements the provisions of AR 710–2 for excess serviceable and unserviceable items and applicable portions of AR 725–50.

c. Expedited local processing, cleaning, preservation, and preparation for shipment:

(1) *Damaged items.* No damage statement will be required to turn in an item to the repairing facility.

(2) *Steam cleaning.* Steam cleaning of major assemblies and components will not be required at any level below installation and is not required at installation level for assemblies repaired at depot. Any cleaning to facilitate diagnosis or repair will be done in accordance with applicable environmental regulations. Steam cleaning, if required for overhaul/rebuild of the assembly, will be accomplished by the organization that performs this maintenance. The only authorized exception to this procedure is when steam cleaning is required to meet agricultural inspection standards.

(3) *Lubricants.* Lubricants will not be drained prior to turn-in. Exceptions include when a metal shipping container is not available and/or the major assembly cannot be otherwise safely transported to the repair location. If the repairing organization does not have sufficient approved capacity to collect and dispose of used lubricant, the supporting maintenance organization will be notified for disposition instructions.

(4) *Shipping.* Major assemblies and components will be shipped under transportation priorities applicable to the supply priority designators and procedures outlined in AR 725–50.

(5) *Packaging and preservation actions.* These will comply with AR 710–2.

(6) *Inspections.* After the initial inspection is performed by the supporting DS/GS maintenance activity, intermediate supply activities will not require additional classification inspections.

(7) *Movement and movement control.* Where possible, the major assembly or component will be shipped directly to the repairing activity. Only the associated documentation will be routed normally through appropriate supply and/or transportation management activities.

d. The repairing activity will report any missing parts and damage-in-shipment discrepancies using established discrepant shipment procedures in AR 725–50. Other inconsistencies between the repairing facility's classification inspection and the initial classification inspection will be reported back to the shipping organization commander.

Section II
The Army Maintenance Structure

3–13. The Army maintenance system

a. The Army maintenance system is comprised of two management categories: field (tactical) and national (sustainment). The field category manages the unit and DS levels of maintenance activities conducting repair and return to user maintenance actions; the national level is composed of GS and depot levels supporting repair and return to stock activities. The CG, USAMC is the NMM and is fully responsible for national maintenance.

b. Maintenance tasks will be performed in accordance with the MAC.

3–14. Unit/organizational-level maintenance

a. Unit maintenance is the first and most-critical level of the Army maintenance system. It is the foundation of the maintenance system and requires continuous emphasis by all commanders. Commanders must establish a command climate that ensures that assigned equipment is maintained to the maintenance standard defined in paragraph 3–2. Commanders are responsible for providing resources, assigning responsibility, and training their soldiers to achieve this standard.

b. The cornerstone of unit maintenance is the operator/crew performing PMCS from the applicable TM 10–series. The before- and during-PMCS checks concentrate on ensuring equipment is FMC.

(1) Faults detected during before-operations checks that make the equipment not FMC or violate a safety directive must be corrected before the mission.

(2) Faults detected during the mission affecting FMC must be corrected during the mission.

(3) Faults detected before or during the mission not affecting FMC may be corrected, if time permits, or recorded/reported for correction after the mission.

(4) After-operations checks detect faults resulting from the mission and ensure the identification and correction of faults to maintain the equipment to the maintenance standard.

c. Unit mechanics will use the TM 10– and 20–series to identify and correct faults. The TM 20–series PMCS tables are used to perform scheduled PMCS services that sustain and extend the FMC time of the equipment.

d. Maintenance operations normally assigned to unit maintenance include—

(1) Performance of PMCS.

(2) Inspections by sight and touch of external and other easily accessible components per the TM 10– and 20–series.

(3) Lubrication, cleaning (including corrective actions to repair corrosive damage), preserving (including spot painting), tightening, replacement, and minor adjustments authorized by the MAC.

(4) Diagnosis and fault isolation as authorized by the MAC.

(5) Replacement of unserviceable parts, modules, and assemblies as authorized by the MAC.

(6) Requisition, receipt, storage, and issue of repair parts.

(7) Verification of faults and level of repair of unserviceable materiel prior to evacuation.

(8) Evacuation to the appropriate maintenance support activity of unserviceable reparables beyond the MAC authorization to correct/repair.

(9) Recovery or transportation of equipment to and from the supporting maintenance activity.

(10) Accomplishment of all tasks required by the AOAP.

(11) Materiel readiness reporting per AR 700–138 and current MMDF.

(12) Ensuring that TM 10– and 20–series level modification applications are properly coordinated with the Installation MWO coordinator in accordance with AR 750–10.

e. Performance of unit-level maintenance will be documented using the automated forms and records in ULLS–ground (ULLS–G) and ULLS–aviation (ULLS–A) or AR 700–138, DA Pam 738–750, and DA Pam 738–751 for manual operations. This information is used to assist commanders in establishing, monitoring, and evaluating their maintenance program. In addition to the regulatory guidance in this publication, doctrinal and technical guidance for unit-level maintenance operations is found in DA Pam 750–35 and DA Pam 750–1.

f. OMS in the ARNG will provide unit maintenance that is beyond the capabilities of owning units. Owning units will perform unit maintenance, including scheduled services, within the capability of the unit during IDT and AT periods. Unit commanders will advise supporting OMS forepersons of unit maintenance requirements that are beyond their unit's capability. OMSs will perform the following maintenance functions for surface equipment:

(1) Maintain liaison with supported unit commanders.

(2) Schedule maintenance services, when feasible, to coincide with quarterly and semiannual services.

(3) Service all equipment issued under warranty as specified in the manufacturer's service manual or materiel fielding plan.

(4) Maintain authorized repair parts and supplies when the PLL is located at the OMS.

(5) Furnish contact teams to perform unit maintenance and inspection when this is more economical than scheduling equipment into the shop.

(6) Provide backup unit maintenance that is beyond the capability of units using training sites.

(7) Provide administrative and operational control support for assigned unit assets, including readiness reporting to parent organizations.

(8) Perform DS maintenance when authorized by the SMM.

(9) Equipment evacuation is handled as follows:

(a) Process and evacuate equipment to consolidated maintenance centers (CSMs)/MATES, when required. Movement of this equipment will be supported by unit personnel.

(b) Movement of equipment to OMS requiring unit maintenance/repairs will be supported by unit personnel.

g. The operation and supervision of an organizational maintenance sub-shop (OMSS) is the responsibility of the parent OMS.

h. UTES in the ARNG is an activity authorized to perform in-storage unit maintenance and, when authorized by the SMM, limited DS maintenance. The UTES is under the control and supervision of the SMM. This activity will perform the following functions:

(1) Maintain and secure major items of equipment positioned at the UTES.

(2) Accomplish the required in-storage unit, and limited DS maintenance, on all organic and hand-receipted equipment positioned at the UTES.

(3) Maintain BII, COEI, and ITIA or an authorized or additional authorized list required by each owning unit for all major items of equipment positioned at the UTES.

(4) Requisition, stock, maintain, and issue unit-level class IX items in support of the equipment positioned at the UTES.

(5) Submit DA Form 2407 if using manual system, or DA Form 5990–E if using ULLS, to the combined support maintenance shop (CSMS) for all DS and GS maintenance requirements for organic and hand-receipt equipment positioned at the UTES. The UTES foreperson or a formally designated representative will sign each work order request submitted with a priority of 03 through 10.

(6) Submit feeder data via ULLS–G for each unit positioning equipment at the UTES per AR 700–138 current MMDF.

(7) Ensure that forms are completed per DA Pam 738–750 and are submitted to the property book officer and automatic data processing (ADP) activity.

i. The MATES is an ARNG TDA maintenance facility which, when collocated with a CSMS, provides full-time unit-level support on ARNG equipment assigned to the site. When a MATES is not collocated with a CSMS, the MATES provides unit-, DS-, and GS-level support to assigned equipment and units. The MATES provides support in the conduct of maintenance training. MATES operations are outlined in National Guard Bureau (NGB) Pam 750–2.

j. USAR maintenance activities have been established to perform unit-level maintenance, which is beyond the Army Reserve commander's capability or authorization to perform during scheduled training assemblies. Geographical support boundaries are assigned by the USARC. The maintenance activities are designated as (G) for ground support equipment, (W) for watercraft, or (G/W) for ground and watercraft.

k. Equipment concentration sites (ECS) have a maintenance branch with an area support mission and a storage branch for that equipment beyond the capability of the owning unit commander to store, maintain, or use at home station. Preference for storage location should be at unit's mobilization or annual training site to minimize transportation costs and time delays during mobilization.

l. Area maintenance support activities (AMSA) and ECS, with an assigned maintenance support mission for small arms, are authorized to perform maintenance support through the DS level. This support can be performed at the units home station using maintenance contact teams or at the AMSA/ECS when the small arms are evacuated to the AMSA/ECS by the owning unit.

m. Maintenance activities may be authorized by USARC to perform limited DS-level maintenance.

3–15. DS maintenance

a. DS maintenance is characterized by—

(1) One-stop service to supported units.

(2) Highly mobile, weapon-system-oriented maintenance.

(3) Backup support to unit-level maintenance.

b. Divisional maintenance units will support organic elements of the division. Attached units are required to coordinate with the parent units for support. Nondivisional maintenance units will provide support on an area basis as backup support to divisional DS units.

c. DS units may grant authority to supported units to perform the DS level of repair if the supported unit has the capability and capacity to perform the repair.

d. Nondivisional DS maintenance units may be assigned installation maintenance missions to ensure unit mission capability is maintained. These assignments will be approved and monitored by the installation materiel maintenance officer (IMMO).

e. MTOE DS maintenance personnel may perform duties of TDA maintenance activities to maintain skills and update MOS training.

f. All MTOE DS maintenance units will be provided adequate capability for furnishing on-site technical advice and maintenance support.

g. DS maintenance personnel will perform technical inspections of class II, VII, and IX materiel to determine serviceability and completeness.

h. DS units will be the primary reentry point for unserviceable reparable class IX materiel to the SSA.

i. Ensure that 30–series level modification applications are properly coordinated with the installation MWO coordinator in accordance with AR 750–10.

j. Operations assigned to DS units will normally include the following:

(1) Inspection of all items to—

(a) Verify serviceability of the item.

(b) Determine if unserviceable items were rendered unserviceable due to other than fair wear and tear. If negligence or willful misconduct is suspected, repair will not be made until a release statement is received per AR 735–5.

(c) Determine economic reparability of excess and accident-damaged equipment.

(2) Repair of unserviceable economically reparable end items per the maintenance expenditure limit (MEL). These will be repaired and returned to the user.

(3) Repair of all economically reparable components will return the items to a serviceable condition. These items will be repaired and returned to the requesting maintenance facility. Repair and return to supply will only be accomplished at the direction of the NMM.

(4) Provision of proactive materiel readiness and technical assistance of unit maintenance elements, including—

(a) Visits to supported units on a regular basis.

(b) Advice to supported units in proper methods for performing maintenance and related logistics support.

(c) Coordination with supported units to perform technical inspection when requested.

(d) On-site assistance to supported units.

(5) Diagnosis and isolation of materiel or module malfunctions, adjustment, and alignment of modules that can be readily completed with assigned tools and TMDE.

(6) Performance of light body repair, including straightening, welding, sanding, and painting of skirts, fenders, body, and hull sections when required to stop corrosion or retain structural integrity.

(7) Evacuation of economically reparable end items to designated maintenance facilities when repair is beyond authorized capability or capacity. Evacuation and return after repair will be through maintenance channels.

(8) Evacuation of maintenance repair code D, H, and L economically reparable components to the supporting supply activity if repairs are beyond MAC F-coded repairs.

(9) Evacuation of economically reparable components that can be returned to a serviceable condition using MAC F-level repair to designated maintenance facilities when repair is beyond capability or capacity. Evacuation and return after repair will be through maintenance channels.

(10) Providing backup DS maintenance support to other DS units and requesting backup support from other DS and GS units as required.

(11) Fabrication as identified by the appropriate TM.

k. The ARNG CSMS will perform DS and GS maintenance on all Federal surface equipment. The CSMS is under the control and supervision of the SMM and provides DS and GS maintenance to—

(1) Equipment prepositioned at a collocated MATES and/or UTES.

(2) Backup support to noncollocated MATES.

(3) Supported OMSs.

(4) Any DOD agency when authorized by CNGB.

l. USAR TDA maintenance activities are authorized to perform limited DS and GS maintenance as authorized by the USARC. The authorization is contingent upon availability of required resources and skilled personnel. An alternate DS activity within the geographic support area may be used when the activity backlog exceeds 21 days. If used, an installation support activity (ISA) or contract may be required. Components and/or end items requiring DS repair will be evacuated to the most cost-effective location for repair or replacement.

3–16. GS maintenance

a. GS maintenance is characterized by—

(1) Commodity-oriented repair of components and end items in support of the NMP.

(2) Backup maintenance support to DS units.

(3) Job shop/bay or production line operations with the capability to task/organize to meet special mission requirements.

(4) Location at echelons above corps.

b. GS units may grant authority to supported units to perform the next-higher level of repair for repair and return to user only if the supported unit has the capability and capacity to perform the repair.

c. GS maintenance units will be assigned installation maintenance missions to ensure unit mission capability is maintained. These assignments will be approved and monitored by the IMMO.

d. MTOE GS maintenance personnel may perform duties at TDA maintenance activities to maintain skills and update MOS training.

e. All MTOE GS maintenance units will be provided adequate capability for furnishing on-site technical advice and maintenance support.

f. GS maintenance personnel will perform technical inspections of class II, VII, and IX materiel to determine serviceability and completeness.

g. Operations assigned to GS level will normally include—

(1) Diagnosis, isolation, and repair of faults within modules/components per the MAC. Components repaired and returned to stock will be repaired to the overhaul standard. Overhaul is defined as maintenance that restores equipment or components to a completely serviceable condition with a measurable (expected) life. This process involves inspection and diagnosis, according to the depot maintenance work requirements or similar technical directions, that identifies all components exhibiting wear and directs the replacement or adjustment of those items to original equipment specification.

(2) Performance of heavy body, hull, turret, and frame repair per the MAC.

(3) Area maintenance support, including technical assistance and on-site maintenance as required or requested.

(4) Collection and classification of class VII materiel (less aircraft, ammunition, missiles, and medical materiel) for proper disposition.

(5) Operation of cannibalization points, when authorized by MACOM commanders. (See AR 710–2.)

(6) Evacuation of unserviceable end items and components through the appropriate supply support activity.

(7) Fabrication or manufacture of repair parts, assemblies, components, jigs, and fixtures when approved by the MACOM commanders.

(8) Request for backup support as required.

(9) Assurance that TM 40–series level modification applications are properly coordinated with the installation MWO coordinator in accordance with AR 750–10.

3–17. TDA installation maintenance

a. IMMAs will perform DS- and GS-level maintenance. IMMAs will also perform unit-level maintenance for MTOE units that do not have organic unit maintenance capability. Procedures for establishing, operating, transferring, or discontinuing IMMAs are in DA Pam 750–13.

b. IMMAs will not be work-loaded to the detriment of TOE and TDA units. This is to ensure that TOE DS and GS maintenance units maintain skill proficiencies and mission capabilities.

c. There is only one IMMA at an installation. IMMAs do not include—

(1) MTOE units.

(2) Area maintenance and supply facilities (AMSF).
(3) Communications security (COMSEC) communications logistics support facility (CLSF).
(4) Regional training site-maintenance (RTSM).
(5) MATES operated by the ARNG.
(6) Maintenance activities operated by the Army Reserve.
(7) Area maintenance facilities (AMFs).

d. Installation commanders will appoint the IMMO on orders.

e. The IMMO will review all installation maintenance activities on an annual basis to ensure continued effectiveness and economical support and recommend TDA maintenance consolidations, when required, through the chain of command.

f. Operations assigned to an IMMA will normally include—
(1) Maintenance and issue of operational readiness float when the IMMA is assigned the mission.
(2) Operation of a cannibalization point.
(3) Maintenance technical assistance to supported units and activities.
(4) Maintenance of all materiel required to operate the installation.

g. IMMAs must be readily expandable to support mobilization workloads and maintenance requirements when MTOE units are displaced or inactivated.

h. Centralized maintenance production planning and control activities are established under the control of the IMMO.

i. The DS and GS maintenance workload requirements that are beyond the IMMA's capability or capacity will be done by other DS or GS activities in the geographical support area. This workload will be accomplished on a reimbursable basis and may also be done by ISSA or contract. Contracts with commercial sources are administered per the forward repair activity (FAR).

3–18. Specialized repair authority

a. A specialized repair authority is an authorization by HQ USAMC to perform specific MRC D and L repairs at GS level that will be valid for a period of 1 year. All work performed under the specialized repair authority will be directly funded with customer-level Operations and Maintenance, Army (OMA) funds for items repaired and returned to owning units. Work performed under the specialized repair authority on Army working capital fund (AWCF) components will be funded with AWCF funds.

b. The Commander, HQ USAMC, as the NMM, will have the authority to approve or recommend disapproval of specialized repair authority requests submitted by the MACOMS. Approval authority may be delegated to the MSC commander as appropriate. Final disapproval authority will reside with DCS, G–4. The Commander, HQ USAMC will establish the business rules necessary to implement the specialized repair authority process.

c. Requests for specialized repair authority approval will be submitted in the sample format at table 3–3.

Table 3–3
Sample format for a request for specialized repair authority authorization

1. Unit identification code (UIC) of requesting activity/unit.
2. NSN of item.
3. Federal Logistic Record (FED LOG) source of supply code (B14, B16, and so forth).
4. Nomenclature.
5. End item application (end item code).
6. FED LOG maintenance repair code (D or L).
7. Repair of NSN. (List specific depot-level tasks proposed to be performed by the specialized repair authority.)
8. Skills, tools, TMDE, facilities, and publications on hand at the requesting unit. (If needed, add a continuation sheet.)
a. Skills (including certification for soldering).
b. Tools/equipment. (State if required or on hand.)
c. TMDE/test program set (TPS). (State if required or on hand.)
d. Facilities. (State if required or on hand.)
e. Publications.
9. Yearly number of items to be repaired.

current State surface equipment maintenance support plan located on the NGB Web site under Army research lab (ARL)–M.

Section III
Depot-Level and Acquisition Maintenance Policies

3–21. Depot-level maintenance

a. Depot-level maintenance is characterized by the facilities, tools, machinery, TMDE, and technical manpower needed to execute the depot maintenance workload requirements generated throughout the life cycle of the mission-essential system and may be either organic or contractor. Depot maintenance supports Army readiness through overhaul and recapitalization of major items and overhaul of all class IX components for long-range cyclic requirements planning, mobilization surge demands during times of conflict, and short-term efforts.

b. Depot-level maintenance supports both the combat forces and the Army supply system as shown below.

(1) Depot-level maintenance will provide technical support and backup to DS and GS maintenance units. In overseas areas, a joint decision is required between the theater Army (TA) commander and CG, USAMC to determine the relationship of USAMC supply and maintenance activities with the theater commander in peacetime. In wartime and military operations other than war (MOOTW), the theater commander assumes control of depot-level maintenance operations in the theater of operations.

(2) Depot-level maintenance provides combat-ready materiel to the Army supply system in accordance with the priorities and requirements specified by DCS, G–3.

c. Depot-level maintenance will normally be performed by TDA industrial-type activities operated by the Army. Depot-level maintenance may also be performed by contract, ISA, and interdepartmental or interagency agreement.

d. An FRA is a USAMC-resourced, -directed, and -controlled activity operated by contractor or organic personnel that provides depot-level support forward of the depot. Where possible, FRAs will provide support for multiple weapon systems or commodities. The policies for depot reparable accountability (turn-in and requisition and Army working capitol fund) apply to FRAs.

e. All depot-level work, regardless of where it is performed, how it is funded, or whether it is organic or contractor-based work, will be reported to the ODCS, G–4 (DALO–SMM) on a quarterly basis. (RCS exempt: see AR 335–15, para 5–2*e*(1).) Information will be by quarter and will include specialized repair authorities, FRAs, NMP, and depots. The fourth-quarter report will provide a rollup of all funds executed both in the private and public sectors for the year. This report will be submitted by 1 December of each year.

3–22. Materiel design, acquisition, and life-cycle support

a. Equipment will be designed and developed to be supported within the Army maintenance system.

b. Maintenance planning and execution will be oriented toward the support of combat troops through the wholesale system with the prime purpose of sustaining materiel to the Army maintenance standard as defined in appropriate TMs.

c. Equipment will be designed to permit on-site repair, through component replacement, to the greatest extent possible with a minimum of manpower, skills, support equipment, and external TMDE.

d. Inter-Service and contract maintenance support, including life-cycle contractor support programs, will be planned and executed per this regulation.

e. Maintenance support will be structured on a weapon system and/or materiel end item basis and will conform to the Army maintenance system.

f. Maintenance management and planning will maximize consistency in maintenance support between similar types of materiel.

g. RCM, RAM, Manpower and Personnel Integration (MANPRINT), and BDAR will be an integral part of logistics support planning by wholesale maintenance activities.

h. Use of existing Army and other Service materiel and maintenance support structure will be stressed in the design and acquisition of the weapon system.

i. The top design priorities for supportability in the development or acquisition of new weapon systems and end items are:

(1) Modular design and discard at failure instead of repair when economically practical.

(2) Increase mean time between failure (MTBF).

(3) Reduce mean time to repair (MTTR).

(4) Minimize time to diagnose, fault isolate, and replace.

j. Embedded diagnostics, prognostics, and automatic identification technology (AIT) are the foundation of Army preventive and corrective maintenance in all Army equipment maintenance programs.

(1) TRADOC combat developers will require, through operational requirements documents (ORDs), that sensor-based embedded diagnostics and/or prognostic capabilities and AIT are designed into all new weapons/information systems and, where possible, existing systems. These technologies will be fully implemented in the following areas:

(a) Technical literature, including electronic technical manuals (ETMs) and interactive ETMs (IETMs), for the execution of field maintenance operations.

(b) Army doctrine and training for improved methods, procedures, and combat service support.

(c) Fleet life-cycle management and inventory management programs at USAMC national inventory control point (NICP) and its associated program management organizations.

(2) Materiel developers will ensure that embedded diagnostic and prognostic technologies and AIT are incorporated in design and development of new equipment and major weapon systems and upgrades of existing weapon systems and equipment end items.

k. Transportability/mobility will be included in the design and selection of any maintenance support equipment.

l. Information and reporting systems will be established to—

(1) Measure the effectiveness of materiel maintenance and management at all levels.

(2) Identify the frequency of materiel failures and effect corrective action.

(3) Develop maintenance support parameters for future materiel systems.

(4) Update the logistics database of the materiel proponent and other logistics planning elements of the Army.

(5) Compute initial repair parts required to support repair or overhaul programs for both contract and organic activities at retail and wholesale levels.

(6) Track materiel changes.

(7) Permit serial number tracking of selected parts, components, and end items.

m. Modification/modernization of equipment by wholesale maintenance activities will be performed and reported per AR 750–10.

n. Maximum repair cost or maximum permissible overhaul costs/MEL will be established by the appropriate materiel proponent for each materiel weapon system or equipment and its subsystems, assemblies, modules, and components.

o. Army depot maintenance capabilities and capacities will be developed within guidelines established by DOD Directive (DODD) 4151.18 to—

(1) Acquire and maintain suitable levels of technical competence.

(2) Execute the depot-level maintenance workload requirements for mission-essential weapons, systems, or equipment during the life cycle.

(3) Provide technical support to all echelons of maintenance below depot as needed.

(4) Provide for mobilization and surge requirements.

(5) Tailor FRA depot maintenance workload to a level of effort that best accommodates user needs for responsive logistics support on mission-critical systems and equipment.

p. Maintenance tooling, accessory shop materiel, machine tools, and TMDE will be modernized as cost effectiveness and the need for advanced technology dictate.

q. Acquisition, calibration, repair, and certification of TMDE will be accomplished per AR 750–43 and EM 0022 as part of wholesale maintenance support.

r. Use of U.S. Army-preferred TMDE will be stressed for all levels of maintenance during the design and acquisition phases of the materiel system. TMDE used to support materiel repair will be selected per AR 750–43.

s. Depot-level maintenance SOR analysis will be conducted and documented as part of the milestone II ASARC or equivalent review for acquisition category (ACAT) II and below programs for all newly acquired systems and modifications per AR 70–1.

t. An organic depot maintenance capability will be established for all newly acquired systems or modifications that have been designated as core within 4 years of initial operational capability date per AR 70–1. Core analysis procedures are outlined in paragraph E–2 of this regulation.

Chapter 4
Maintenance Operations

Section I
Materiel Repair and Evacuation

4–1. General

a. Proper performance of PMCS by the equipment operator will ensure early detection of faults and need for required maintenance.

b. MACs specify what tasks can be performed at each level of maintenance.

c. To ensure the most cost-effective use of maintenance resources, the economic reparability of unserviceable

j. Repairing peripheral materiel, such as power and environmental, when not supported by the facility engineer or other area support maintenance units.

5–33. Maintenance support team

The maintenance support team is that activity of an ASC DS or GS maintenance facility that brings mobile maintenance support to CE fixed facilities or other ASC units on a scheduled, emergency, or on-call basis. The CE maintenance support teams are a functional responsibility of AMSF and other authorized command maintenance organizations; COMSEC maintenance support teams will be furnished by the CLSF.

5–34. Forward area support team

The forward area support team is a remotely located extension of the AMSF that performs scheduled and emergency backup maintenance and technical assistance at the CE fixed facility or unit location.

5–35. Quality assurance

All ASC DS and GS maintenance support facilities will institute effective quality control procedures in carrying out HQDA and ASC quality assurance programs. Quality control must be sufficiently independent of maintenance operations to ensure that inspections are not constrained.

Section VII
Maintenance of Nontactical Vehicles

5–36. General

a. Authorized maintenance may be accomplished in transportation motor pool shops, the Internal Mission Materiel Maintenance Activity (IMMMA), local commercial shops, or other Government maintenance activities as jointly determined by the motor pool manager and the installation management officer (IMO). In all cases, warranties are to be used to the maximum extent possible. Detailed policies on management of nontactical vehicles (NTVs) are in AR 58–1.

b. Operator inspection and service consists of inspecting and detecting malfunctions that make the vehicle unsafe or unserviceable and includes minor or simple parts replacement and servicing (water, fuel, tires, and battery).

c. At those installations having consolidated maintenance shops, all maintenance is the responsibility of the IMO. NTV maintenance may be performed in the transportation motor pool shop but will normally be performed in the consolidated shops.

d. ORF support and administrative storage of NTVs is not authorized.

e. The MEL for an NTV is in AR 58–1.

5–37. Modifications

Modifications of an NTV are covered in AR 58–1 and TM 38–600.

5–38. Repair parts supply

a. Repair parts for an NTV are obtained under the provisions of AR 710–2.

b. Cannibalization of uneconomically reparable vehicles prior to turn in to the Defense Reutilization and Marketing Office (DRMO) is limited to those serviceable parts immediately needed to repair inoperable vehicles.

c. Major commanders in overseas areas may authorize controlled exchange of repair parts from NTVs only when those repair parts are not otherwise available.

Section VIII
Maintenance of Training Aids and Devices and Visual Information Equipment and Systems

5–39. Training aids and devices

This section provides maintenance policy for training aids and devices. It supplements policies in AR 350–38, AR 700–127, and AR 25–1. Training aids and devices used by the U.S. Army can be categorized as follows:

a. Training aids and devices assigned to a MTOE unit are type classified and include simulators or end items.

b. Training aids and devices managed by TDA activities include—

(1) Non-type-classified training aids and devices developed or commercially acquired to support general military training and training on more than one type item of materiel. These are usually assigned to and maintained by training and visual information support centers (T/VISC) for loan to units and activities.

(2) Type-classified training aids and devices used to support a special training requirement.

c. Maintenance policy is as follows:

(1) Type-classified and non-type-classified training aids and devices will be maintained per this regulation.

interest. The decision must be made on a case-by-case basis. Acquiring commands or activities will establish local warranty implementation procedures.

b. In warranty applications, unit readiness and mission effectiveness will take priority. If the maintenance activity is not able to get an effective response (within the warranty-specified timeframes), the maintenance activity will contact the acquiring command or activity for resolution. When resolution is not timely enough to meet mission requirements, the maintenance activity commander may authorize repair of the item and will notify the acquiring command or activity in writing of the necessity to repair the item now and settle any warranty issues later.

c. IT warranties to the greatest extent possible will be structured to allow on-site or mail-in processes to maintain their warranties. FRAs are authorized at the AMC MSC Commander's discretion to facilitate IT repairs by the warranty vendors. FRAs should take action to become OEM certified warranty providers. DS maintenance will be performed on automation systems hardware when it does not violate the warranty.

5–50. Base operations IT

IT obtained for BASOPS support through the Information Management Area process is supported through the directors of information management/CIO/G–6. Although these systems are not part of tactical automation, maintenance may be obtained through the depot after coordination with the appropriate USAMC MSC.

Section XII
Maintenance of Organization Clothing and Individual Equipment

5–51. Maintenance policy

a. The organization clothing and individual equipment (OCIE) issued to soldiers will be inspected to determine serviceability in accordance with AR 700–84 and DA Pam 710–2–1. The individual to whom the organization clothing or equipment is assigned must perform normal maintenance that would reasonably be expected to be performed within a unit. This maintenance includes cleaning, spot removal, repair of tears or rips, and replacement of buttons. Using unit and DS maintenance and repair procedures for OCIE are in TM 10–8400–203–23.

b. Each installation or activity will ensure clothing and materiel beyond organizational repair capability is turned in to a central location for either repair and return to stock or classification as unserviceable and turned in to DRMO.

c. The U.S. Property and Fiscal Officer (USPFO) may authorize negotiation of local contracts for maintaining clothing and equipment for the ARNG as follows:

(1) Minor alterations and repairs of individual clothing.

(2) Minor repairs of USPFO stocks to reclassify items to a serviceable status for reissue.

d. Major alterations for the purpose of modifying items will require prior approval of CNGB.

e. Laundry and dry cleaning services are authorized as follows:

(1) Laundry services in support of AT per NGB Pam 350–1.

(2) Laundry and dry cleaning services in support of IDT should be obtained at the lowest possible cost for the following items:

(a) White organizational clothing and equipment issued to medical and food service personnel.

(b) Sheets, pillowcases, and mattress covers.

(c) USPFO stocks of serviceable individual and organizational clothing and equipment prior to reissue.

(d) Individual clothing for interment of deceased personnel when Federal funds are authorized.

(e) Blankets and sleeping bags.

(f) Army band distinctive uniforms as authorized by CTA 50–900.

5–52. Maintenance expenditure limits

Maintenance expenditure limits can be found in TB 43–0002–27.

Section XIII
Maintenance of Army Tactical C4IEWS Materiel

5–53. General

a. This section applies to the maintenance of Army tactical communications, command, control, computer, intelligence, electronic warfare, and sensors (C4IEWS) equipment, including MTOE, TDA, and loaned materiel. C4IEWS equipment includes, but is not limited to, the following:

(1) Army intelligence and electronic warfare (IEW) equipment fielded to corps, divisions, armored cavalry regiments, separate brigades, and battalions.

(2) INSCOM tactical IEW equipment, including select equipment items in U.S. Army field stations and regional support centers (RSCs).

(8) *Publicity.*

(a) To enhance recognition of AAME winners and promote participation in the process, all levels of command should aggressively publicize the program. This may be accomplished through public affairs officers and may include announcements of winners in local newspapers, hometown news releases, and background information about the Army-wide aspects of the AAME program and its positive impact on unit combat readiness.

(b) The USAOC&S will ensure that its public affairs office is continually apprised of AAME events and achievements.

(c) Commanders will submit publicity information and photographs for historical purposes to the Commander, U.S. Army Ordnance Center and School, ATTN: ATSL–AAME, Aberdeen Proving Ground, MD 21005–5201.

(d) Photographs taken at the AAME award ceremony will be sent to the MACOM for distribution to all awardees.

(9) *Program milestones.* The USAOC&S will—

(a) Request HQDA board members and on-site evaluation team members during the first quarter of the fiscal year.

(b) Conduct HQDA Phase I Evaluation Board during the second quarter.

(c) Conduct HQDA on-site Phase II Evaluation Team visit during the second quarter, following the conclusion of the Phase I Evaluation Board.

(d) Publish *PS Magazine* and public affairs articles, as required.

(e) Conduct MACOM-level AARs during the third quarter.

b. Secretary of Defense (SECDEF) Maintenance Award Program.

(1) The SECDEF Maintenance Award Program annually recognizes the top six maintenance units across all services. The AAME program is used as the gateway to compete for the SECDEF Maintenance Award.

(2) Army nominees are selected from among units that competed in and were selected as AAME winners. The top AAME winners will be the Army's nominees for the SECDEF Maintenance Award. An Army unit must compete and be selected as a winner in the AAME program to be nominated for the SECDEF Maintenance Award Program.

(3) The selection board will nominate two AAME winners in each of the three categories as follows:

(a) Small: 10 to 100 authorized personnel.

(b) Medium: 101 to 300 authorized personnel.

(c) Large: 301 or more authorized personnel.

(4) The SECDEF Maintenance Awards are presented to the two top units in each of the three categories. The Secretary of Defense Phoenix Trophy is awarded to the best of the six winners.

7–2. Army Oil Analysis Program

The objectives of the AOAP are to improve operational readiness of Army equipment, promote safety, detect impending component failures, and reduce resource usage by conserving petroleum products by applying on condition oil change (OCOC) policy. In the AOAP, the term "oil" covers all fluids used in wetted lubrication systems (such as hydraulic fluid, grease, transmission fluid, and oil).

a. OCOC eliminates the wasteful requirement of changing component oil based on hours/miles/calendar days as currently specified by many TMs and LOs. Oil will not be changed unless recommended by the AOAP laboratory. When recommended, both the oil and the oil filter(s) will be changed at the same time.

Note. Oil filter(s) will be serviced/cleaned/changed when they are known to be contaminated or clogged, when service is recommended by AOAP laboratory analysis, or at prescribed hard time intervals as described in LO or TM.

(1) When a unit is deployed and oil analysis service is not readily available, the unit maintenance officer may authorize an oil and filter change when oil contamination is evident.

(2) The OCOC policy does not change or modify procedures and guidance for—

(a) New equipment under manufacturer's warranty.

(b) Seasonal oil change requirements in current TMs and LOs.

b. The CG, USAMC is the responsible agent for the AOAP. Approval of all policy pertaining to the AOAP rests with ODCS, G–4. In addition, the CG, USAMC will—

(1) Exercise program management over the AOAP.

(2) Fund and procure laboratory equipment.

(3) Ensure that USAMC major subordinate commands—

(a) Recommend systems for inclusion in the AOAP and sampling intervals for these systems.

(b) Configure systems to use oil sampling valves where feasible.

(4) Provide a DA program director, AOAP, who will—

(a) Provide management guidance, technical supervision, and assistance to all Army activities regarding the AOAP.

(b) Conduct annual unannounced laboratory assistance and assessment review visits to monitor laboratory operations.

(c) Serve as the functional manager for the AOAP Standard Data System, as prescribed in AR 70–1 and DA Pam 25–6.

(d) Serve as the executive agent of the Depot Oil Analysis Program.

(e) Ensure compliance with the Joint Oil Analysis Program (JOAP) as specified in AR 700–132.

(f) Approve weapon systems and end items recommended for inclusion in the AOAP.

(g) Approve sampling intervals.

(h) Develop and maintain component wear-metal evaluation criteria for systems in the AOAP and ensure that criteria are published in the proper laboratory TMs.

(i) Plan and coordinate research and development to improve oil analysis techniques.

(j) Prepare and update the AOAP Five-Year Program Plan and coordinate resources prior to redistribution of workload.

(k) Develop and maintain a prototype performance work statement for use in solicitation documents for the contract operation of AOAP laboratories. The program director will also assist in the review of contractor bids and proposals and evaluate the qualifications of contractor personnel to satisfy the terms of the contract.

(l) Ensure that all AOAP laboratories meet and maintain requirements for certification prescribed in the AOAP laboratory manual.

(m) Serve as technical adviser for the assembly and operation of mobile oil analysis laboratory facilities.

(5) USAMC has designated USAMC Logistics Support Agency to appoint a program director of the AOAP to provide management guidance, technical supervision, and assistance to all Army activities regarding the AOAP. The program director, in coordination with the JOAP–Technical Support Center, will ensure that the procedures prescribed in the JOAP laboratory manual regarding certification of equipment and personnel are compatible with established requirements for AOAP laboratories.

c. MACOM commanders will—

(1) Ensure that all subordinate commands participate in the AOAP.

(2) Establish oil analysis laboratories in coordination with the AOAP director.

(3) Fund the operation of laboratories.

(4) Ensure standard statement of work is used in solicitation documents for the contractor operation of AOAP laboratories.

(5) Ensure that each battalion or equivalent organization owning or operating equipment or components per DA Pam 738–750 and DA Pam 738–751 appoints an AOAP monitor, who will ensure subordinate units—

(a) Implement AOAP.

(b) Appoint an AOAP monitor who has been properly trained and certified by the supporting laboratory to administer and control the program in the unit.

(c) Enroll all AOAP-designated equipment and components in the program.

(d) Properly and accurately take oil samples and submit them at the prescribed intervals.

(e) Comply with laboratory recommendations and notify the laboratory by DA Form 3254–R (Oil Analysis Recommendation and Feedback) within 5 days of maintenance accomplishment.

(f) Publish procedures in the unit-level maintenance SOP to ensure the program is implemented and followed.

(g) Have adequate maintenance personnel who are properly instructed in the techniques of drawing oil samples from equipment components and in preparing DA Form 2062 (Hand Receipt/Annex Number) and DA Form 5991–E (Oil Analysis Request).

d. The CG, TRADOC is responsible for developing and incorporating AOAP instructions into all appropriate service schools' programs of instruction.

e. The following policies apply to the AOAP:

(1) The AOAP is mandatory at all levels of maintenance operations for specified materiel, including overhaul for QA purposes.

(2) All Army aircraft and those systems identified in DA Pam 738–750 will be enrolled in the AOAP. The AOAP Director must approve all additions or deletions in writing.

(3) The AOAP will be executed between the laboratory and the user unit.

(4) The servicing AOAP laboratories will evaluate the lubricating and hydraulic oils from all components enrolled in the program. Intervals are specified in DA Pam 738–750, TB 43–0106, or upon notification by the servicing AOAP laboratory.

(5) Upon receipt of a DA Form 3254–R issued by the AOAP laboratory, the unit commander will place the equipment in an NMC maintenance status on DA Form 2406 until the maintenance action is completed. To ensure safety of flight, an aircraft may be placed in an NMC status before formal receipt of a DA Form 3254–R.

(6) All units and levels of command will have an AOAP monitor who is adequately trained by the supporting lab or installation AOAP monitor.

(7) Each AOAP laboratory will provide oil analysis support per applicable publications and supplemental guidance provided by the program director.

(8) Oil sample valves will be installed on all vehicles and equipment enrolled in AOAP as specified by the materiel proponent. GS and depot activities will install sample valves during overhaul and repair of assemblies as needed.

(9) During wartime, AOAP priority will be given to aeronautical items.

(10) During the transition to war, AOAP support will be provided by fixed labs and mobile or portable systems as they are available.

(11) During wartime, AOAP service will be—

(a) Provided as far forward as possible using the most-responsive system available.

(b) Event oriented, occurring during unit stand-downs, reconstitutions, and the conduct of DS- and GS-level maintenance.

(12) Direct communication between the AOAP program director and the various command operating elements and laboratories is authorized. Correspondence will be sent to the Commander, USAMC Logistics Support Activity, ATTN: AMXLS–OA, Redstone Arsenal, AL 35898–7466.

f. Establishment and refinement of normal and abnormal wear metal concentration patterns is completely dependent upon correlation of analytical data with actual conditions found at disassembly inspections. Feedback to the laboratory is essential to refine evaluation criteria, to increase the accuracy of laboratory predictions, and to recommend design changes in those major assemblies showing an abnormal failure rate through the AOAP. Therefore, operating and maintenance activities must furnish maintenance and disassembly inspection data to the AOAP laboratories regarding engines or other major assemblies. The procedures for furnishing feedback are contained in DA Pam 738–750 and TB 43–0106.

g. Detailed operating procedures for the AOAP are contained in DA Pam 738–750 and TB 43–0106.

h. Inter-Service support is provided according to AR 700–132.

7–3. Army warranty program

a. Materiel under warranty will be identified and maintained per the detailed policies and guidance contained in AR 700–139.

b. Warranty actions will be completed as directed in AR 700–139 and reported under DA Pam 738–750 and DA Pam 738–751.

c. Unit readiness and mission effectiveness will take priority over warranty actions. The supporting warranty coordinator (WARCO) will be notified immediately when equipment must be fixed first and the warranty settled later.

d. Application of the AOAP to items under warranty is specified in the item's warranty technical bulletin. AOAP procedures supplement the instructions directing oil changes for equipment under warranty.

e. Representatives of the LAP will provide advice and assistance to MACOM WARCO and personnel at unit, DS, and GS levels of maintenance.

f. Manufacturer's standard warranties will be accepted when items are locally procured. Special warranties will be included in local purchases only when they are cost-effective and executable by the user.

g. Depot maintenance-related warranty expenditure will be monitored and reported to HQDA (DALO–SMM) as required. This data will be used as input to the Army's Distribution of Depot Maintenance Workload Report (also known as the 50/50 report). All warranty contracts that specifically contain a scope of work indicating depot-level maintenance services will be reported.

h. Warranty actions that require a modification must be applied by a valid MWO. The MWO will be applied and reported per AR 750–10.

7–4. Sample data collection

a. Objectives and purpose.

(1) The SDC program is established per DODD 4151.18 to improve weapon system performance and logistics supportability and maintainability as well as to support ARSTAF programs. It is an integrated, closed-loop field data collection and management system authorized by DA. Under the program, maintenance and logistics data are collected through on-site observation of a sample number of designated end items operating in selected units for specified periods of time. Dedicated personnel collect the data in a manner determined by each SDC proponent and approved by the applicable MACOM.

(2) Analysis of SDC information provides an assessment of equipment supportability and performance to support initiatives relating to MANPRINT, safety, design improvements, production processes, MWOs, supply, maintenance, manpower requirements criteria, engineering evaluation, and operating support cost reduction. The SDC program establishes an audit trail to conduct quality assurance per AR 70–1.

b. Program policies.

(1) DCS, G–4, in coordination with USAMC, will designate those intensively managed weapon systems that will be mandatory for SDC. DA staff elements, user MACOMs, and materiel proponents may nominate other weapon systems for discretionary SDC. Normally, mandatory and discretionary SDC requirements will be identified during the ASARC/ Defense Acquisition Board B after the full-scale development contract is awarded.

commander. Level 2 is the authorized data collection method during contingency operations to minimize the administrative burden on soldiers and disruption of unit operations.

7–5. Army Modification Program

a. Modifications to Army materiel are either mandatory MWOs that are emergency, urgent, or routine or are alternate changes that include minor alterations and special purpose or special-mission modifications.

b. Mandatory modifications are authorized for application by a published MWO. The proponent for the MWO is responsible for applying the MWO.

c. Equipment awaiting application of an emergency MWO will be placed in an NMC status according to DA Pam 738–750, DA Pam 738–751, AR 220–1, and AR 700–138.

d. Urgent modifications will be applied within 2 years from the MWO effective date as specified in the MWO. If the modification is not applied within the specified time, the equipment will be placed in an NMC status according to DA Pam 738–750, DA Pam 738–751, AR 220–1, and AR 700–138, except in the case where an extension has been granted by DALO–SMM per AR 750–10.

e. Routine modifications will be applied within 4 years from the MWO effective date as specified in the MWO. If the modification is not applied within the specified time, the equipment will be placed in an NMC status according to DA Pam 738–750, DA Pam 738–751, AR 220–1, and AR 700–138.

f. Commanders will not allow their equipment to be modified unless there is an official MWO. The activity applying an MWO will report MWO application in accordance with AR 750–10.

7–6. Army Maintenance Float Program

a. The only authorized maintenance float in the Army is the ORF.

b. ORF is an authorized quantity of assets for use by MTOE and TDA maintenance activities with a DS/AVIM-level maintenance mission to exchange with supported units when repairs cannot be accomplished within MACOM established guidelines. ORF assets awaiting issue will be maintained at the Army maintenance standard defined in paragraph 3–2.

(1) During peacetime, ORF is designed to assist in maintaining the readiness and operational posture of units.

(2) During transition to war—

(a) Units deploying before the outbreak of war will deploy with unit allocated ORF equipment. The unit allocation will be by line item number (LIN) and will be the ratio of each unit's equipment to the total of equipment supported by the installation from which the unit is deploying.

(b) Upon the outbreak of war, nondeployed MACOMs will use ORF to enhance equipment readiness and fill shortages. Any excess ORF will be reported to ODCS, G–3 for redistribution guidance. Deployed MACOMs will do the same, except they will use any excess ORF to fill initial battle losses.

(c) Units deploying to support peacekeeping, humanitarian aid, or disaster relief efforts have the option to deploy their authorized ORF assets with the permission of their MACOM ORF point of contact.

c. To be eligible for consideration as a DA maintenance float, an item must—

(1) Have a standard study number (SSN).

(2) Be class VII or class II.

(3) Be authorized maintenance support at the DS/AVIM level, except for the following:

(a) ORF may be maintained at TRADOC schools and training centers when approved by CG, TRADOC.

(b) ORF may be maintained at TDA and FORSCOM ASC off-site maintenance activities if not collocated with an MTOE DS maintenance unit. The MACOM commander's approval is required.

(c) ORF authorized at a light infantry division will be separately identified and accounted for on the division-level Standard Property Book System Redesign and may be stocked regardless of capability to perform DS maintenance on the item.

d. Those items with established eligibility will be categorized as—

(1) *Category I.* Items on the DA critical items list and items directed by ODCS, G–3 to have an ORF. These items will be reviewed at the discretion of HQDA.

(2) *Category II.* Items that are readiness reportable per AR 700–138 but are not category I.

(3) *Category III.* Items that are not readiness-reportable but are embedded in and directly affect the readiness of category I and II items.

(4) *Category IV.* Low-density or obsolete items.

e. ORF assets will only be issued when the priority designator (PD) on the work order is 01 through 06 and the estimated repair time exceeds the MACOM established time criteria.

(1) In CONUS, the decision to issue an ORF asset will normally be made by the IMMO or the Materiel Management Center commander. In OCONUS, the decision to issue an ORF asset is normally made by the maintenance facility shop officer maintaining the ORF. The decision will be made as rapidly as possible to ensure maximum mission capability.

(2) Supported units will accept the ORF item to be issued as long as it is a like item or an authorized substitute per SB 710–1–1 and it meets the Army maintenance standard in paragraph 3–2.

(3) The exchange of an unserviceable reparable end item for an ORF asset will be accomplished as a simultaneous turn-in and issue transaction. BII and COEI common to the end items will not be exchanged.

(4) The priority for work requests to repair an unserviceable ORF asset and requisitions to replenish washed-out assets will be the highest priority authorized for use by supported customer units.

(5) Each time a decision is made to float (whether assets are available or not), a demand for ORF will be recorded in SAMS with the appropriate code. A cumulative total of demands and issues will be maintained to support the annual utilization report. Repeated low demand data will be cause for removal from ORF authorization unless retention can be justified by the requesting MACOM.

(6) DS/AVIM units with ORF will submit a separate monthly readiness report using utilization code 4 per AR 700–138, paragraph 2–3.

f. ORF assets will not be used to—

(1) Provide a source of repair parts (controlled exchange or cannibalization).

(2) Expand currently assigned missions or set up new operational missions.

(3) Replace items that have been cannibalized during peacetime.

(4) Satisfy temporary loan requirements.

(5) Set up a peacetime pool of equipment to be held as assets to reconstitute the force.

(6) Fill unit equipment shortages.

(7) Replace uneconomically reparable equipment.

g. Specific ORF responsibilities are as follows:

(1) The DCS, G–4 (DALO–SMM) will—

(a) Approve requests for additions or deletions to the maintenance float support list and all new or revised float factors and notify USAMC of any changes.

(b) Coordinate with ODCS, G–3 on approval of new ORF candidates and redistribution of unauthorized or excess ORF equipment.

(c) Approve and publish the ORF support list annually.

(d) Furnish USAMC-approved float factors for publication in the Total Army Equipment Distribution Plan (TAEDP) cycle.

(2) The ODCS, G–3 will—

(a) Include the maintenance float in the computations for the Army Acquisition Objective using the approved factors from the TAEDP.

(b) Coordinate with ODCS, G–4 to redistribute ORF identified as excess or not authorized.

(3) Materiel developers (ASA(ALT), PMs/PEOs, and USAMC) will—

(a) Ensure that maintenance float requirements established for equipment being fielded are based on usage data for similar items or best available engineering data.

(b) Coordinate with ODCS, G–3; TRADOC; and MACOM ORF coordinators to ensure that maintenance float is properly documented and authorized at MACOM level in conjunction with materiel fielding plan development.

(4) CG, USAMC will—

(a) Review recommendations for additions/deletions to maintenance float and develop and submit the proposed ORF support list with float factors to HQDA for approval. (RCS exempt: AR 335–15, para 5–2*e*(1)).

(b) Compute total ORF authorization for DA approval.

(c) Validate ORF authorizations in the requisition-validation (REQVAL) system against the TAEDP authorizations. The total of ORF on hand plus on requisition will not exceed the TAEDP authorization.

(d) Recompute float factors annually, as required, based on usage data reported by MACOMs or HQDA guidance.

(e) Publish approved authorizations in the TAEDP.

(f) Publish approved float factors in SB 710–1–1.

(5) MACOM commanders and CNGB will—

(a) Approve the establishment of ORF and appoint a float coordinator.

(b) Distribute ORF within the command.

(c) Establish repair time criteria to be used as the basis for issue of ORF assets.

(d) Determine the minimum quantity of ORF required to meet their needs and ensure that ORF on hand and on requisition does not exceed the TAEDP authorization.

(e) Report the previous calendar year demand data for ORF to the USAMC Logistics Support Activity, ATTN: AMXLS–RB, Redstone Arsenal, AL 35898–7466. (RCS exempt: AR 335–15, para 5–2*e*(1)). An example of the required data is as follows:

1. Routing identifier code (RIC).

2. LIN.

3. NSN.

4. Nomenclature.

5. Total ORF downtime (days).

6. ORF-authorize (TAEDP).

7. Current on-hand ORF assets.

(f) Report any excess or unauthorized ORF assets to HQDA (DALO–SMM) for disposition instruction. Excess includes ORF assets on hand with no utilization during one reporting period. Excess will be distributed as directed by HQDA.

(g) Recommend additions or deletions to the ORF support list throughout the year. These recommendations, with supporting justifications, will be forwarded to LOGSA.

(6) The accountable officer will—

(a) Account for ORF assets per AR 710–2 and DA Pam 710–2–2.

(b) Ensure that all BII/COEI for ORF assets are on hand and serviceable. Accountability and control of BII/COEI will remain with the owning organization. (All equipment not included on the aircraft inventory record and maintained by separate accountability will be removed before exchange.)

(c) Direct the repair of unserviceable ORF items.

h. The following formula will be used to obtain or update the float factors:

(1) For initial computation of the ORF factor during materiel development and fielding: (FMC RATE) × (MTTR) (MTBF + MTTR) − FMC RATE obtained from AR 700–138. (–MTBF is in days. –MTTR is in days).

(2) The MTBF and MTTR are those operational requirements specified for that system by the CBTDEV, documented in the ORD, and included in the logistics support analysis requirements (LSAR). When these elements are in rounds, hours, miles, or events, they must be converted to days. During development, MTBF and MTTR data will be obtained from the LSAR.

(3) For updating factors and computing initial factors for fielded equipment the following formula will be used:

(a) Step 1: Total ORF downtime density × 365=ORF %.

(b) Step 2: ORF % .9 (readiness goal)=ORF factor − total ORF downtime=amount of ORF downtime avoided because of ORF plus the downtime that could have been avoided because of ORF; this will be in days. (–Density is TAEDP authorization.)

(4) The formula for RCF factors is: mean overhaul cycle time (MOCT) − mean time between overhaul (MTBO)=RCF factor − MOCT minus MTBO. (–MOCT is in months. –MTBO is in months.)

i. The float authorization and factors for an item will be deleted when—

(1) Directed by HQDA.

(2) The computed factor is .0000.

(3) The computed factor is less than .0100 and justification for retention is not received from MACOMs within 1 year.

7–7. Battlefield damage assessment and repair

a. The purpose of BDAR is to rapidly return disabled equipment to combat or to enable the equipment to self-recover. BDAR is the commander's responsibility, based on METTT, and is accomplished by the operator/crew and unit/DS maintenance personnel. Realistic training must be performed during peacetime to ensure wartime proficiency.

b. BDAR procedures are designed for battlefield and training environments and should be used in situations where standard maintenance procedures are not practical or possible. These procedures are not meant to replace standard maintenance procedures, only to sustain the vehicle/equipment until permanent repairs can be accomplished.

c. Low-risk BDAR procedures will be incorporated into peacetime maintenance training both in field and training base scenarios. Combat training centers and field training exercises provide excellent realistic training environments for BDAR. Approved battlefield damage repair (BDR) kits provide maintainers the capability to accomplish damage repair or routine equipment failure repair on the battlefield. BDAR fixes will be replaced with standard repairs at the first opportunity. Equipment may continue to be operated based on the recommendation of qualified maintenance personnel, while waiting parts, with the BDR fix in place. Peacetime BDAR involves low-risk fixes outlined in appendix E of BDAR TMs. Low-risk repairs are those that can be accomplished without risk to personnel or further damage to equipment and can be applied using approved BDR kits under the supervision of qualified maintenance personnel. Peacetime BDAR repairs are temporary and will be replaced with standard maintenance repairs at the first opportunity.

d. BDAR requirements are usually written in TMs. Some items of equipment may not require the development of a BDAR TM; however, if a new or improved system is under development and BDAR is required, the TRADOC BDAR Office will assist USAMC and the contractors in development of a BDAR TM. BDAR is for those items of equipment having a significant impact on the outcome of specific combat missions.

e. BDAR doctrine and techniques will be evaluated during a U.S. Army ballistic research live fire test. Live fire test plans will incorporate BDAR into live fire tests on Army equipment to ensure that BDAR can be performed and to ensure that it is incorporated into appropriate publications. When reporting a BDAR action, a DA Form 2404/DA Form

Student Handout 2

Extracted Material from DA Pam 738-750

This student handout contains seven pages of extracted material from the following publication:

DA Pam 738-750, Functional Users Manual for the Army Maintenance Management System (TAMMS), 1 Aug 1994

Chapter 1	pages 1 and 3
Chapter 2	pages 3 thru 5
Chapter 3	pages 15 and 16
Chapter 12	page 146

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Chapter 1
Introduction

1–1. Purpose

a. This pamphlet indicates which records are required to control and manage equipment and maintenance. AR 750–1 sets the policy for keeping the records outlined in this pamphlet.

b. This pamphlet applies to all Army equipment, except installed equipment (see AR 420–17), industrial production equipment, nonstandard equipment that has not been type classified or assigned a National Stock Number (NSN), equipment bought with nonappropriated funds, and medical equipment covered by TB 38–750–2.

c. The forms and records are used to—

(1) Control equipment and manage maintenance.

(2) Make equipment improvement recommendations (EIRs) and product quality deficiency reports.

(3) Ask for, apply, and report Modification Work Orders (MWOS).

(4) Keep track of and report on the condition, status, and operation of equipment.

(5) Collect and report information used to design new equipment and redesign and improve current equipment.

(6) Gather information for special one–time studies and projects. When the forms do not meet the needs of a study or project, ask HQDA (DALO–SMM), WASH DC 20310–0546, for approval to vary from this pamphlet.

(7) Get special maintenance information from selected units in selected areas. This sampling will be limited to a stated number and a specific type, model, or series of equipment. The sample can be taken for only a limited time. AR 750–1 governs sampling programs.

(8) File warranty claim actions (WCAs).

1–2. References

Required and related publications and prescribed and referenced forms are listed in appendix A.

1–3. Explanation of abbreviations and terms

Abbreviations and special terms used in this regulation are explained in the consolidated glossary. Other military terms are defined in AR 310–25.

1–4. Exceptions

This pamphlet cannot be supplemented or changed without approval from HQDA (DALO–SMM), WASH DC 20310–0546.

1–5. Types of records

a. Operational records. Operational records give the information needed to control equipment. They help plan, manage, and put the equipment and personnel to the best use.Operational records are in chapter 2.

b. Maintenance records. Maintenance records control maintenance schedules and services, inspections, and repair workloads; and are used to report, ask for, and record repair work.They help keep up with the status of equipment for readiness, warranty, equipment use, and logistics reports. Maintenance records are in chapter 3.

c. Nonaeronautical Equipment, Army Oil Analysis Program (AOAP). Technical information, instructions, and operating procedures for nonaeronautical equipment enrolled in the AOAP are described in chapter 4. Policies, objectives, and responsibilities of the AOAP are prescribed in AR 750–1.

d. Equipment historical records. Historical records are permanent forms on the receipt, operation, maintenance, modification, transfer, and disposal of individual items of equipment. These records are in chapter 5.

e. Watercraft records. Records for U.S. Army floating craft are in chapter 6.

f. Rail equipment records. Chapter 7 covers records for U.S. Army rail equipment.

*g. Communication security (COMSEC) equipment.*COMSEC equipment records are in chapter 8.

h. Ammunition records. Use ammunition records to control and report on munitions. Nuclear weapon reporting is covered by (C) TB 9–1100–803–15. Ammunition records are in chapter 9.

i. Supply and Maintenance Assessment and Review Team(SMART). The purpose of SMART, how to submit a SMART initiative, and a list of SMART Initiatives are included in chapter 10.

j. Deficiency reports. Procedures to report deficiency reports are in chapter 11.

k. Unit Level Logistics System (ULLS) user procedures. ULLS user procedures are outlined in chapter 12.

l. Standard Army Maintenance System (SAMS) user procedures. Forms and procedures unique to SAMS users are outlined in chapter 13.

1–6. General instructions

a. Information about equipment forms and records, and specific details on how to use, fill out, and handle each form is found in the related chapter. Unless the specific instructions for the form say otherwise, the following rules apply:

(1) Nonapplicable entries will be left blank.

(2) All entries on the forms will be printed or typed except personal signatures and initials. All forms and records will be filled out in pencil, unless the specific instructions tell you to use ink. If ink is required, you will use a blue or black pen.Repeated information can be entered by rubber stamp. Typed and stamped entries will be in blue or black. Grease pencils, felt tip marker, and colored pencils will not be used except as directed for corrected copies.

(3) Time and effort can be saved by using abbreviations. Use only the abbreviations in AR 310–50, AR 700–138, appendix B, and the consolidated glossary.

(4) Authorized codes for forms are listed in appendix B.

(5) Ditto symbols may be used. However, make sure the symbols cannot be misunderstood.

(6) Forms may be overprinted when the information is repeated each time the form is used for a particular purpose. For example, heading information or inspection items may be overprinted.

(7) The terms noun, noun abbreviation, and noun nomenclature refer to the same basic identification. These terms may be used interchangeably.

(8) Use the examples and illustrations as guides only. Read the text and figure instructions. Then fill out your forms showing your own equipment, unit, and status. If there is a conflict between the form and the instructions in the figure, use the instructions.

(9) Forms will not be changed or altered. You will not use locally devised forms instead of, or in addition to, the forms in this pamphlet. When forms do not give you needed information, you can ask permission to vary from this pamphlet. However, you will not vary from these requirements without written permission from HQDA(DALO–SMM), WASH DC 20310–0546.

(10) Commanders appoint a designated representative to sign some forms and records. When a representative is appointed, that authority must be in writing on a memorandum, orders, or a DA Form 1687 (Notice of Delegation of Authority–Receipt for Supplies).See DA Pam 710–2–1.

(11) Where rank/grade is mentioned, rank refers to military(e.g., CPT), and grade refers to civilian (e.g., WG–09).

(12) Use julian or calendar dates unless the specific form instructions tell the type of date to put on a form.

(13) Do not make out forms and records until you have an entry for them.

(14) Disposition instructions are provided for each form. A form may be retained beyond the prescribed period when required locally to assist management or in special situations. A form will not be retained beyond the prescribed time merely for inspection purposes.

(15) Wherever a masculine pronoun “he”,“him”, or “his” is used, it will be construed to include the feminine “she”, “her”, or “hers” as appropriate.

b. Commanders direct the preparation of forms for local management purposes. The forms used for local management purposes, and not directed to be maintained by other guidance, will not be sent outside the command.

(1) *Status symbol change.* The commander or commander's designated representative will ensure that the following is accomplished if they disagree with a status symbol:

(a) Changes can be made from a less serious to a more serious status symbol, and from a serious to a less serious status symbol.

(b) The commander or commander's designated representative will show a status symbol change on a DA Form 2404 (Equipment Inspection and Maintenance Worksheet) by re–entering the fault and new status symbol on the next open line. Print "status symbol change" in column d next to the fault.

(c) When either the original or final (change) status symbol is an X or a CIRCLED X, the repair work will be inspected. When the repair is finished, the repairer who performed the work will initial in column e. The commander or commander's designated representative will designate a qualified person who has not performed the repair work. This designated inspector will put his last name initial over the status symbol to accept the work and start the process to close out the fault.

(2) *Changing an X to a CIRCLED X status symbol.* A fault with an X status symbol puts the equipment in an inoperative condition. The equipment may have to be sent to a higher level maintenance activity for repair. Operating equipment in a CIRCLED X status symbol always carries some risk or danger. The commander or commander's designated representative will verify deficiency on a daily or mission basis, whichever is greater.

(a) Before allowing limited operations, make sure the crew or operators will not be endangered or the equipment further damaged.

(b) Changing an X to a CIRCLED X is temporary. When the daily or mission dispatch is over, the equipment goes back to an X status symbol.

(c) Changing an X not mission capable (NMC) condition to a CIRCLED X only effects operation of the equipment. The time is still counted as NMC on the DA Form 2406 (Materiel Condition Status Report), DA Form 3266–1 (Missile Materiel Readiness Report), DD Form 314 (Preventive Maintenance Schedule and Record), and DA Form 3266–2R (Missile Materiel Status Report Worksheet).

1–9. How to report errors, recommend improvements, and ask for help

a. If you need help or have questions about this pamphlet, send a letter through your command to the Director, USAMC Logistics Support Activity, ATTN: AMXLS–RRM, Redstone Arsenal, AL 35898–7466. Be sure to send the letter through channels, as the answer you need may be nearby. Your command will try to answer your question before passing it on. If you go through channels, you will get an answer sooner.

b. Make sure your DA Forms 2028 (Recommended Changes to Publications and Blank Forms) and letters asking for information list the paragraph and page number. Remember to add your name and DSN or commercial phone number.

1–10. Sample data collection

a. Sample data collection (SDC) is the DA authorized process in accordance with AR 750–1 and AR 750–2 for collecting and administering information on fielded Army equipment and equipment support.

b. Data is collected on specific equipment in specific units for specific objectives. The data provides equipment developers and equipment managers with actual field performance information in support of supply, maintenance, or engineering evaluations. The SDC Program establishes an audit trail and supports evaluations of SDC specific objectives; for example, evaluated fielded systems currently in production using engineering service type data for the purpose of improving the production system reliability, availability, maintainability, and readiness characteristics.

c. HQDA approves all SDC projects. The executive agent designated by DA for SDC management will announce the initiation of an SDC project by message 30 days before the SDC project implementation date. Participating units will be information addresses on those messages.

d. Accurate, timely, and complete recording of all data on TAMMS and SAMS forms and records by participating SDC units is essential to the success of an SDC project.

e. SDC project documentation includes a major Army command(MACOM) approved Field Procedures Guide (FPG), containing specific responsibilities, procedures, and instructions on what TAMMS, and SAMS forms will be required for the SDC project. In certain instances, it is necessary for the TAMMS forms to be modified to allow for the collection of essential data (for example, military occupational specialty (MOS) is not a required entry on the DA Form 2404 by the instructions in this pamphlet). Modified TAMMS and SAMS forms will only be used upon MACOM approval. Therefore, participating SDC units will ensure modified TAMMS and SAMS forms, if applicable, are completed as directed in the MACOM approved FPG.

f. AR 750–1 authorizes unit personnel in selected units to record data on special SDC forms. The use of special forms is restricted to a minimum and will be approved only with strong justification and per an approved SDC plan and FPG. Units participating in SDC projects will complete the applicable SDC form as directed by the MACOM approved SDC FPG. MACOM approval of the SDC FPG serves as the authority for unit personnel to complete the special SDC form.

Chapter 2
Operational Records and Dispatch Procedures

2–1. General procedures

a. This chapter tells how to make out and use forms for equipment operation, dispatch, and control.

b. The forms and records will be kept by all units, organizations, and activities who operate self–powered vehicles, towed vehicles, and stationary powered equipment. These forms may be used for other equipment when the commander wants hours of use, fuel, and oil added or other information.

c. Units with automatic data processing equipment support will use printouts or automated forms in place of the manual forms in this chapter.

d. The following publications tell how to train, test, and license equipment operators, except on aircraft, and report accidents:

(1) AR 55–19
(2) AR 56–9
(3) AR 190–51
(4) AR 385–40
(5) AR 385–55
(6) AR 600–55
(7) AR 700–84
(8) FM 21–17
(9) FM 55–30
(10) FM 21–305
(11) FM 21–306
(12) TB 600–1
(13) TB 600–2

2–2. How to dispatch equipment

a. Dispatching is the method by which a commander controls the use of equipment. However, allowing equipment to be used carries with it the responsibility for both the equipment and the operator's safety. Commanders ensure that dispatching procedures are understood and followed.

b. The commander appoints a responsible person to the duties of a dispatcher (reference para 1–6a(10)).

c. The dispatcher—

(1) Fills requests for equipment to be issued or used.

(2) Checks the operator's OF 346 (U.S. Government Motor Vehicle Operator's Identification Card) or DA Form 5984–E (U.S.Government Motor Vehicle Operator's Identification Card) (Automated)to make sure the operator is licensed for the equipment requested.

(3) Issues and collects the equipment record folder and the needed forms in the folder.

(4) Makes sure that the operators make needed and correct entries on the forms in the equipment record folder.

(5) Logs equipment in and out on the DA Form 2401(Organizational Control Record for Equipment).

(6) Makes required entries on the DD Form 1970 (Motor Equipment Utilization Record).

(7) Makes sure equipment faults are reported to maintenance personnel using DA Form 2404.

(8) Reports any differences in stated and actual destinations or missions.

(9) Notes any services done during the dispatch, AOAP samples taken, and so forth. Update the DA Form 5823 (Equipment Identification Card) to show any new information.

d. The dispatch loop describes the following procedures that will be followed when dispatching equipment:

(1) The operator reports to the dispatcher. For equipment needing licensed operators, the operator's OF 346 or DA Form 5984–E (Automated) will list or cover the item.

(2) The dispatcher gives the operator an equipment record folder with all the forms that will be needed during the mission.Both the dispatcher and the operator check the DA Form 5823 on the front of the folder for services due on the equipment. For unusual dispatch situations such as field training exercises or alerts, forms and packets will be prepared in advance.

(3) The operator uses the equipment TM for before–operation PMCS. Any faults the operator can fix will be fixed. Other faults, not already on the DA Form 2408–14 (Uncorrected Fault Record), go on the DA Form 2404. Nontactical equipment may not have a PMCS. Use a local checklist as a PMCS for that equipment.Operational checks and services will be performed before the equipment leaves the motor pool or other dispatch point. Operational checks will be performed while the equipment is being operated.Operational checks and services will be performed when the equipment completes the mission or returns to the motor pool or dispatch point.

(4) The operator and/or mechanic fixes any new faults, if possible. The commander or the commander's representative decides if any remaining faults go on the DA Form 2408–14 or keep the equipment from being dispatched.

(5) If the equipment is ready to dispatch, the dispatcher makes needed entries on the DA Form 2401 and validates the DD Form 1970 with signature and date.

(6) The operator leaves with the equipment and equipment record folder with all needed forms. During–operation checks are noted during the dispatch.

(7) When the mission is completed, the operator performs the after–operation PMCS on the equipment and annotates new faults on the DA Form 2404. The operator and mechanic will fix any faults they can and secure the equipment.

(8) The operator turns in the equipment records folder and all forms to the dispatcher. The dispatcher checks the forms for any open faults or needed actions. If the DD Form 1970 has been completely filled, the dispatcher transfers needed information to a new DD Form 1970. The dispatcher then closes out the DA Form 2401 entry for that item.

(9) Motor transport units performing line haul operations transfer their semitrailers to a larger organization designated by the senior motor transportation command (either group or brigade).The commander of the larger transport organization establishes a semitrailer control office that will be responsible for maintaining dispatch and maintenance records on those semitrailers.

2–3. Equipment record folder

a. The equipment record folder (NSN 7510–01–065–0166) holds the forms needed to keep up with equipment use, operation, and condition while on dispatch.(See fig 2–1.)

b. The equipment record folder is used each time an item of equipment goes on dispatch as shown below:

(1) The folder will carry only the forms and records needed during a dispatch. For routine dispatch, a vehicle folder will contain the current DA Form 2404; DA Form 2408–14, when there is something deferred or on order for the equipment; DD Form 1970;and the accident forms, SF 91 (Operator Report on Motor Vehicle Accidents), and DD 518 (Accident Identification Card).

(2) A DA Form 2408–4 (Weapon Record Data) will go in the folder only when the weapon is to be fired, serviced, or repaired.

(3) Put all the forms, except the DD Form 314 and the DA Forms 2408–9, in the folder when the equipment goes to support maintenance.

c. An equipment record folder will be assigned to a specific item of equipment. The DA Form 5823 in the front outside pocket ties the folder to the equipment.

d. The equipment record folder and all forms on an item of equipment go with the equipment when it is turned in or transferred.

2–4. DA Form 5823 (Equipment Identification Card)

a. The DA Form 5823 ties a particular equipment record folder to an item of equipment. (See fig 2–1.).

b. A DA Form 5823 goes in the outside front pocket of each equipment record folder. Information on the card is used to:identify the equipment covered, keep track of services due, and identify the assigned operator and leader.

c. The dispatcher and operator use the card to keep up with services and make sure the right folder is issued.

d. Keep information on the DA Form 5823 current. Whoever keeps the DD Form 314 will update the information after each scheduled service.

e. The DA Form 5823 will be replaced when it is no longer readable.

f. DA Form 5823 is not required if under ULLS.

2–5. DD Form 1970 (Motor Equipment Utilization Record)

a. Purpose. The DD Form 1970 is a record of motor equipment use. (See figs 2–2, 2–3, and 2–4.)

b. Use.

(1) The DD Form 1970 will be used to control the use of special purpose and material handling equipment, combat, tactical, and nontactical vehicles.

(2) DD Form 1970 will be used to record operating time on equipment that requires services based on hours only. This includes such equipment as generators, air compressors, centrifugal pumps, and so forth. Operating time is the time of operation, using the time of day or hours of usage. Equipment on which an operating time DD Form 1970 is kept only requires an entry on DA Form 2401 when the equipment is used for the purpose for which it was intended; that is, a generator used to provide electrical power or a compressor used to provide compressed air for a mission or a mission support.An entry on DA Form 2401 is not required when equipment is not leaving the motor pool area or area where equipment is maintained or stored.

(3) DD Form 1970 will be used for the following varying periods depending on its use:

(a) For regular dispatches, DD Form 1970 will be used until all the spaces in either the operator or action section have been filled. For equipment with a single operator, for example, the DD Form 1970 normally will be used for four separate dispatches before it is completed.

(b) For an extended dispatch, DD Form 1970 will be used until all the spaces in either the operator or destination sections have been filled. An extended dispatch will be used whenever the equipment being dispatched will not return to the motor pool within the dispatch day; for example, prior to 2400. Examples for use of extended dispatch include guard duty and maneuvers. When an extended dispatch may require more room than one DD Form 1970 allows,

the dispatcher provides blank copies of the DD Form 1970 to use as continuation sheets.

(c) Forms recording only operating time will be used until the destination or operator section is filled in.

(4) DD Form 1970 will be used for control purposes for administrative and engineering and housing motor pools that do not have ADP support. Each dispatch will require a separate DD Form 1970.

(5) Equipment going to support maintenance will be dispatched to and from support maintenance on DD Form 1970 and DA Form 2401. An exception to this is when the unit requesting support maintenance and the support maintenance activity are located so that the equipment will not leave the Motor Pool area or area where equipment is maintained or stored. In this case, only a DA Form 2407(Maintenance Request) needs to accompany the equipment. At support maintenance, the DA Form 2407 will be used as a dispatch record for maintenance repair operations and final road testing.

(6) The DD Form 1970 will be used to record exercises of low use equipment and equipment in administrative storage.

c. Disposition.

(1) The dispatcher—

(a) Puts the time of return on the DA Form 2401 entry.

(b) Transcribes needed information to a new DD Form 1970. For equipment under the AOAP, the dispatcher takes any oil added from the Remarks Block. This number will be added to the total in the Oil Block at the top of the completed DD Form 1970. The new total will be entered in the Oil Block of the new DD Form 1970. The dispatcher keeps a total of oil added to that item only until the next oil sample is taken. The date and hour of the next oil sample will be found on the DA Form 5823 and the DD Form 314. When an oil sample is taken, the figure in the Oil Block of the DD Form 1970 goes to zero.This information is needed for the DD Form 2026 (Oil Analysis Request) sent in with each oil sample.

(c) When required locally, add fuel added during the dispatches to the total in the Fuel Block. The new total will be placed in the Fuel Block on the new DD Form 1970. Local standing operating procedures (SOP) will decide how long and when fuel totals will be kept.

(d) Look for any unusual entries in the Remarks Block that need further action.

(e) After needed information has been moved to other forms, you may keep the last completed DD Form 1970 until a new form is completed. You may have no more than two DD Forms 1970 on the equipment: one completed copy on file and one open for dispatch.

(f) When equipment is involved in an accident or other situation under investigation, keep the DD Form 1970 on the equipment until released by the investigator at the completion of the investigation. Prepare a new DD Form 1970 the next time the vehicle is dispatched.

(2) A completed DD Form 1970 is as follows:

(a) A DD Form 1970 used to dispatch equipment is considered completed whenever the operator blocks, time in and out blocks, or destination blocks are filled. The commander may line out unused portion to close out a form whenever needed.

(b) A DD Form 1970 used to show running time on equipment is considered completed when the destination or operator blocks are filled.

2–6. DA Form 2401 (Organizational Control Record for Equipment)

a. Purpose. The DA Form 2401 is a record of operators and location of equipment on dispatch or in use. (See Fig 2–5.).

b. Use.

(1) Dispatchers note the dispatch or use of equipment.

(2) DA Form 2401 tells commanders who asks for and uses the equipment. It also lets the commander know where the equipment is and when it should return.

c. General information on the DA Form 2401.

(1) DA Form 2401 may be overprinted when the same equipment is dispatched every day.

(2) Use a separate DA Form 2401 to show the dispatch of“radio taxis”. When this DA Form 2401 is used for radio cab dispatch, columns a through m will be filled in as required locally.

(3) The same page may be used for more than one day. Draw a line through the middle of columns “a” through“e” below the last dispatch entry for a day. Write the next date in column ’f’ (Destination), then draw a line through the middle of column “g” through “l”. Do not make a line or date entry for days no equipment is dispatched.

(4) Make separate line entries for equipment that is towed to a location but will not return with the dispatched equipment.

(5) Do not dispatch equipment for motor stables or routine maintenance unless it leaves the equipment or motor pool area.

(6) Equipment sent to support maintenance on a DA Form 2407 will be dispatched on a DD Form 1970 and DA Form 2401 except as noted in paragraph 2–5b(5).

d. Disposition.

(1) Destroy DA Form 2401 one month after the last entry in column 1 has been closed out.

(2) If an accident or unusual situation occurs, keep the DA Form 2401 until it is released by the investigator.

a. For vehicles, put the place, farthest away, that the vehicle is expected to travel.

b. For other equipment, put the location where the equipment will be operating that is farthest from its normal site. If column f is the same as column b, leave this column blank.

(g) Unit Identification Number. The equipment bumper or admin number.

(h) Type of Equipment. Enter the equipment's model identification number (for example, enter M35A2).

(i) Registration Number. Enter the equipment serial number. For equipment you manage by registration number, put the registration number in this column.

(j) Operator's Name and Grade. Enter the last name, first name, MI, and rank/grade of the equipment operator.

(k) Time Out. Log in the time the equipment was dispatched.

(l) Time In.

a. Log in the time the equipment returned.Get this time from the "IN" Block on the DD Form 1970.

b. For equipment coming off an extended dispatch, put the day, month, and time of return in this column.

(m)Remarks.

a. When an assistant or second operator is needed, enter that person's last name, first name, MI, and rank/grade.

b. When a change of dispatcher takes place during the day, the new dispatcher signs in column m for that item dispatched. When a change of dispatcher takes place at the beginning of the day, the new dispatcher signs in column m on the date line.

c. Note any towed equipment, that will come back with the prime mover, in this column. Write the noun for the towed equipment here. (Make separate entries for towed equipment that will not come back with the prime mover.) Treat towed equipment that will not come back with the prime mover as if it were not towed. Complete all columns except the expected time of return.

d. For equipment on extended dispatch, enter the words "EXTENDED DISPATCH" and the expected date of return.

e. Identify equipment involved in accidents or unusual circumstances.

f. When more room is needed, use NEXT open line. Line out all unneeded columns, (a–1).

Chapter 3
Maintenance Forms

3–1. General

a. The forms in this chapter help in scheduling, doing, recording, and managing maintenance on equipment.

b. The forms show the results of inspections, tests, and maintenance performed. They also show the results in diagnostic checks and form the bond between maintenance and supply actions.

c. This chapter provides procedures and examples of maintenance forms used by manual units as well as those units supported by the Standard Army Maintenance Systems (SAMS). Unique SAMS forms are addressed in chapter 13.

d. In addition to the forms within this chapter, maintenance forms for non–standard air traffic control (ATC) and navigational aid (NAVAID) equipment, when specified in the equipment's technical publications, will also be maintained.Maintain each designated form using guidance found within appropriate technical publication. Examples of non–standard equipment are, but not limited to—

(1) Instrument Landing System (ILS) and all associated marker beacons.

(2) Distance Measuring Equipment (DME) System.

(3) Airport Surveillance Radar (ASR) System.

(4) Automated Radar Terminal System (ARTS).

(5) Air Traffic Control Beacon Interrogator (ATCBI) System.

(6) Flight Data Input/Output (FDIO) System.

(7) Digital Brite Radar Indicator Tower Equipment(D–BRITE) System.

(8) Radar Video Mapper.

(9) Programmable Indicator Data Processor (PIDP).

e. The flow of maintenance forms is shown on DA Poster 750–77 (TAMMS/Supply Crossroads). DA Poster 750–77 is automatically distributed to units who mark the DA poster block on DA Form 12–4–E (Subscription Numbers, Part 1 for Miscellaneous Administrative Publications and Posters).

3–2. DA Form 2402 (Exchange Tag)

a. Purpose. DA Form 2402 serves as an identification tag. (See fig 3–1.)

b. Use.

(1) To identify items held for warranty claims.

(2) To identify other items as needed.

(3) As a receipt for test, measurement, and diagnostic equipment (TMDE) items needing calibration.

c. General instructions.

(1) The DA Form 2402 has four copies and is handled as follows:

(a) Copy one is normally used as a receipt for the unit.

(b) Copy two is a receipt for the battalion level except for warranty claim items. When DA Form 2402 is used to identify or show action completed on a warranty item or claim exhibit, send copy two to the Supporting Warranty Control Office (WARCO). The WARCO will use DA Form 2402 to close out or complete any needed warranty actions or claims.

(c) Copy three serves as a receipt for support units.

(d) Copy four stays with the item until it is repaired and issued. After repair is done, the tag identifies the item as fixed.This form will go with each item sent to supporting maintenance shops (direct support (DS), general support (GS), depot, or contractor for warranty repairs).

(e) Depending on the item, repair needed, and level of work, not all copies may be needed.

(2) Use a separate DA Form 2402 for each item.

d. Disposition.

(1) Destroy the DA Form 2402 when the part or component it applies to is installed or disposed of.

(2) After the action is completed, destroy copies used as a receipt.

(3) When the DA Form 2402 identifies a warranty claim or SF Form 368 (Product Quality Deficiency Report) exhibit, the DA Form 2402 stays on the exhibit until the item is no longer needed.

3–3. DD Form 314 (Preventive Maintenance Schedule and Record)

a. The DD Form 314 is a record of scheduled and performed unit maintenance including lubrication services. It also keeps up with not mission capable (NMCM/NMCS) time, except for missile system/missile subsystem and FAA flight check data of ATC navigational aids. See figures 3–2 through 3–6.

b. DD Form 314 is used to—

(1) Schedule periodic services on equipment, to include components in a system or subsystem, when the technical manual requires a PMCS service to be performed by unit maintenance personnel. This form is also used to schedule the following services performed under the supervision of unit maintenance personnel:

(a) Schedule all non–operator services one service in advance.

(b) The next scheduled due date may fall in the following year.In that case, put the date, miles, and hours due in the Remarks block until a new DD Form 314 is started.

(c) You may mark out weekends and holidays. When these are marked out, schedule services on the next working day.

(d) Use the following symbols to show the type of service scheduled:

1. "T" any test.

2. "I" any inspection.

3. "L" lubrication.

4. "R" recoil exercise.

5. "W" weekly service.

6. "M" monthly (1 month) service.

7. "Q" quarterly (3 months) service.
8. "S" semiannual (6 months) service.
9. "A" annual (1 year) (12 months) service.
10. "E" 18 months service.
11. "B" biennial (2 years) service.
12. "F" quadrennial (4 years) service.
13. "H" tire rotation/inspection.
14. "Z" oil sampling.

(e) The symbol "L" will be used for all periodic lubes required by a lubrication order (LO). The interval block on an LO only tells when to schedule the lubes. It does not tell what services to schedule or symbol to use.

(f) You will get the miles, kilometers, or hours between services from the TM and/or LO.

(g) Other symbols or subsymbols may be used as long as they do not conflict with the symbols required by this pamphlet. Explain those symbols or subsymbols in the Remarks block of the DD Form 314 or in your SOP. For example, you might use S1, SB2, or Lm, L5, L6, L12, or others to show difficult services or manage the services pulled. You may also use subsymbols to explain a service and lube pulled at the same time.

(h) Schedule services in pencil. To schedule a service, put its symbol in pencil in the date due block with its miles, kilometers, or hours beside it as shown below. (Not all services will have miles or hour intervals.)

1. You may not always be able to pull a service when it is scheduled. So you are given a 10 percent variance before or after the schedule of days, miles, or hours. If you stay within the variance, the service is treated as if you did it on the day/miles/hours you scheduled it.

2. Some services may be too critical to have a variance. The equipment maintenance manual will tell you if no variance is allowed.

3. When you do the service within the variance, ink in the symbol with the equipment's miles, kilometers, or hours on the date it was scheduled. When a service outside the variance is completed, erase the scheduled symbol and data, and ink in the symbol with data on the actual day the service was completed. Schedule the next service from the new date.

(i) Lubrications vary the most when the LO requires a lube—

1. By hours, miles, or kilometers only. Put the miles, kilometers, or hours when the next lube is due in the Remarks block.Ink in the symbol "L" and the hours, miles, or kilometers on the equipment in the block for the day you did the lube.

2. On a date interval. Put the symbol "L" on the date block the lube is due. Enter the miles, kilometers, or hours (when they apply) next to the symbol. When the lube is done, ink in the "L" and the miles or hours.

(2) Show completed periodic services and lubes, by inking in the symbol or symbols and miles or hours. DD Forms 314 are tied to unit level services and their intervals. The number of DD Forms 314 you need varies, based on the equipment and how and where your maintenance is pulled. Normally, one DD Form 314 covers one piece of equipment. Several like items may be covered by one DD Form 314 if the services are scheduled and pulled on the same date. Examples of"like items" are small arms and M11 decons. When scheduling services on more than one item, put each item's serial number in the Remarks block. Like equipment or subsystems, reportable under AR 700–138, cannot be combined on one DD Form 314.

(3) Show NMC days on equipment reported under AR 700–138.

(a) NMC time is kept on equipment that is reported under AR 700–138, tables B–1 and B–2, as a single item or as a subsystem.

(b) Equipment reportable under AR 700–138, tables B–1 and B–2, need a record of not mission capable(NMCM/NMCS) time. Keep NMC days on that equipment on the reverse of the DD Form 314 or on a separate DD Form 314 as follows:

1. NMC time is kept only when the equipment has a deficiency defined as not mission capable in the PMCS "not mission capable if" column.

2. Deficiencies that are not covered by the PMCS "not mission capable if" column or equivalent will carry a status symbol X or CIRCLED X, but NMC time will not be counted for those deficiencies. Those deficiencies will be carried on the DA Form 2404.

(c) Show unit NMCM days with the symbol "O". Put an "S" inside the "O" for unit NMCS.Post unit NMCM/NMCS days as they occur. Use the letter "X" for each day the equipment is NMCM at support. Put the letter "S" over an "X" on the days it was NMCS at support. If support does not give you a day–by–day breakout, put the total number of support NMCM/NMCS days in the Remarks block. Use the front side of the DD Form 314 to schedule services. Use the reverse side or another DD Form 314 to show NMCM/NMCS time.

(d) Support maintenance will tell you which or how many days were NMCM/NMCS on the DA Form 2407 or a printout. Post this time to the DD Form 314. NMC time on equipment still in support maintenance at the end of a report period will be provided to the owning unit by telephone or other local means.

(e) For NMC time, equipment that is NMC at the end of the day is counted NMC for the whole day. Equipment that is FMC at the end of the day is counted as FMC for the whole day. A day is the normal work day for your command. See AR 700–138, chapter 4, for missiles.

(f) When equipment is loaned to another unit or activity, a copy of the DD Form 314 will go with the equipment. The borrowing unit will tell the owning unit about any NMCM/NMCS time on the equipment. This information will be given to the owning unit at the end of the reporting period and when the equipment is returned.

(g) Show system NMC time. Post NMC time on a separate DD Form 314 for each subsystem specifically identified in AR 700–138, tables B–1 and B–2. You will keep another separate DD Form 314 on the overall system, which is the system card. The system DD Form 314 shows the NMCM/NMCS time on the combined system.

(4) Schedule oil samples. Scheduling oil samples on the DD Form 314 is optional when the lab gives you a printout that lists when the next sample is due. Schedule oil samples in pencil on the DD Form 314. When the sample is taken, erase the symbol and hours from the DD Form 314 and schedule the next sample in pencil.

(5) Manage maintenance, services, or inspections locally as directed by the unit commander. This can include services performed by other echelons or units when the commander so directs. If a commander wants operator or crew services scheduled, put them in the Remarks block.

(6) Warranty information.

(7) Floating equipment.

(8) Document ATC required data as follows:

(a) Show PMCS technical reference. Within remarks section, exact PMCS technical reference will be shown, down to specific paragraph.

(b) Show PMCS time. Within remarks section, normal time required for each PMCS interval will be shown.

(c) Show flight check data. Within remarks section, show date of last flight check of navigational aid.

c. DD Form 314 is NOT USED for—

(1) Periodic services designated for the operator or crew.

(2) Showing oil samples taken.

(3) Training aids and devices (equipment used ONLY for training). Small arms/weapons must be classified as unusable per AR 190–11 before they can be considered training aids.

(4) Equipment provided with an ADP printout or automated forms that list DD Form 314 data.

(5) Record unit services on test, measurement, and diagnostic equipment (TMDE) when the services are performed by operators without supervision by unit maintenance personnel.

(6) Record NMC time for missile system/missile subsystem per AR 700–138, Chapter 4.

d. Use a signal system to show when a service is scheduled in the current month. A month can be from the first day to the last day of the month (e.g., 1 May through 31 May), or from a day in 1 month to the same day in the next month (e.g., 13 September to 13

12. Exhibit Released to. Enter the name, address, and phone number (DSN/Commercial) of the person and/or company that will ship the exhibit.

Chapter 12
Unit Level Logistics System (ULLS) User Procedures

12–1. General ULLS Information

a. ULLS is the Army's Unit Level Logistics System. ULLS collects maintenance and supply data and provides management information at the unit level.

b. ULLS automates/replaces portions of TAMMS. The following DA/DD Forms have been automated and the ULLS generated printouts(shown with a –E) are authorized replacements:

(1) DA Form 5823 (Equipment Identification Card). DA Form 5823 is not required if you are operating with ULLS; this information is on the dispatch printout.

(2) DD Form 1970 (Motor Equipment Utilization Record) (DA Form 5987–E, Motor Equipment Utilization Record (Automated)).

(3) DA Form 2401 (Organizational Control Record for Equipment)(DA Form 5982–E, Dispatch Control Log (Automated)).

(4) DD Form 314 (Preventive Maintenance Schedule and Record)(Front side Only) (DA Form 5986–E, Preventive Maintenance Schedule and Record (Automated)).

Note. The DA Form 2406 (Materiel Condition Status Report) and backside of the DD Form 314 will be automated upon the completion of the Army Material Status System (AMSS) module, which is scheduled to be included in Software Change Proposal (SCP) 05.

(5) DA Form 2404 (Equipment Inspection and Maintenance Worksheet) (DA Form 5988–E, Equipment Inspection/Maintenance Worksheet (Automated)).

(6) DA Form 2405 (Maintenance Request Register) (DA Form 5989–E, Maintenance Request Register (Automated)).

(7) DA Form 2407 (Maintenance Request) (DA Form 5990–E, Maintenance Request (Automated)).

(8) DA Form 2408–14 (Uncorrected Fault Record). This form was eliminated by including all its information on the DA Form 5988–E (Equipment Inspection and Maintenance Worksheet).

(9) DD Form 2026 (Oil Analysis Request) (DA Form 5991–E, Oil Analysis Request (Automated)).

(10) DA Form 2408–9 (Equipment Control Record) (Usage only) (DA FORM 5992–E, Equipment Usage Request (Automated)).

Note. Transfers, Gains & Losses are done at the property book level.

(11) DA Form 348 (Equipment Operator Qualification Record) (DA Form 5983, Equipment Operator Qualification Record (Automated) and 5983–1–E, Operator's Qulification Record (Automated)).

(12) Optional Form 346 (U.S. Government Motor Vehicle Operator's Identification Card) (DA Form 5984–E, Operator's Permit Record(Automated)).

(13) SF Form 46 (Operator's Identification Card) (DA Form 5984–E)

c. The forms and records produced and recorded in ULLS will be maintained by all units, organizations, and activities who operate self–powered vehicles, towed vehicles, and stationary equipment. The local commander may also require weapons and non serial numbered items to be maintained on this system.

d. Units operating under ULLS will use printouts or automated reports in place of the manual forms prescribed in other chapters.However, units that are not automated will maintain manual forms as required by chapters 2, 3, 4, 5, 9, 11, and appendix E.

Note. . The automated processes in ULLS supersede all manual procedures. In cases that there is a conflict on form disposition between DA Pam 738–750 and the user manual, DA Pam 738–750 will take precedence.

e. There are four separate categories of maintenance processes within ULLS. This chapter contains information for—

(1) Operational processes.
(2) Equipment data update.
(3) Equipment data reports.
(4) Maintenance support.

12–2. Operational processes

Operational records and system generated reports provide the information needed to plan, manage, and control equipment. The operational processes menu contains the following functions:

a. Equipment dispatch and return. This process provides for the regular dispatch or alert dispatch of equipment and return as shown below:

(1) *Equipment dispatch.* Allows the user to dispatch equipment with option to produce the Equipment Maintenance and Inspection Worksheet. This replaces the requirement for a DD Form 1970 and DA Form 2404 (see fig 12–1).

(2) *Alert dispatch.* Provides dispatches, by DODAAC, for all equipment listed in the equipment data file as alert dispatchable (see Fig 12–2).

(3) *Equipment dispatch – returning.* This process is used when returning equipment from regular dispatch. It updates the end item, component usage, operator record, fuel usage, and dispatch control files.

b. DA Form 5988–E (Automated). This process allows user to print an Equipment Maintenance and Inspection Worksheet for each piece of equipment by DODAAC, admin number, or by FSC to facilitate PMCS and other scheduled inspections. The FSC option allows the user to select an item on file by FSC, e.g., to select only generators, enter "6115". The system will check the document control register (DCR)and maintenance fault file and print all faults and parts that have been ordered. (See figs 12–3 through 12–5.)

c. The DA Form 5988–E (Automated) (figs 12–3 through 12–5) is used at organization level to—

(1) Record faults found during an inspection. These faults include PMCS, maintenance activity inspections, diagnostic checks, and spot checks.

(2) Record marine conditions surveys of watercraft.

(3) Record the results of technical inspections on equipment.When needed, this form will show condition codes listed in AR 725–50, AR 750–1, TB, or other publications requiring the technical inspection.

(4) Collect all maintenance and services performed on vehicles that are involved in a DA approved Sample Data Collection (SDC)Plan. In addition to the requirements in this pamphlet, the applicable Field Planning Guide (FPG) will identify additional data required as mandatory entries on the PCN AWACF184 (DA Form 5988–E (Automated).

(5) Report Battle Damage Assessment and Repair (BDAR).

d. Operators, crews, and unit maintenance personnel use the AWACF184 (DA Form 5988–E) to list faults they cannot fix and faults corrected by replacing parts.

e. Operators and crews, first–line leaders, maintenance supervisors, and commanders are equally responsible for updating ULLS with current information recorded on the form.

f. Disposition is as follows:

(1) The AWACF184, DA Form 5988–E (Automated), used for operator PMCS on an equipment will be kept in the equipment record folder or in a protective cover until it is no longer needed; for example, upon updating the ULLS system and generating a new listing.

(2) The AWACF184, DA Form 5988–E (Automated), listing faults found during an operator's or crew's PMCS, goes to the maintenance supervisor for action. Maintenance section leaders review the form prior to destruction to ensure all actions have been taken or recorded within ULLS.

(3) The DA Form 5988–E (Automated) used for scheduled services will be kept on file for quality control until next service is performed.

(4) The DA Form 5988–E (Automated) used for technical inspections will stay with the item until all maintenance is performed or the item is destroyed.

Student Handout 3

Extracted Material from FM 4-30.3

This student handout contains 11 pages of extracted material from the following publication:

FM 4-30.3, Maintenance Operations and Procedures, 1 Sep 2000

Chapter 8 pages 8-1 thru 8-11

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Chapter 8

Safety, Security, and the Environment

Chapter 8 discusses general safety, security in maintenance areas, and environmental management. For assistance with specific questions you might have in these areas, contact your unit, installation, or major command safety, security, or environmental officer.

SECTION I – SAFETY

8-1. Section I discusses general safety programs, safety plans, responsibilities and duties of leaders and managers, accident follow-up procedures, and risk assessment and management procedures. Injuries and accidents reduce a unit's effectiveness, impact adversely on morale and discipline, and deplete operational capabilities. Under combat conditions and during continuous operations, fatigue and the stress of battle add to the causes of accidents.

SAFETY PROGRAM

8-2. The impact of a poor safety program or low safety awareness is a reduction in the maintenance structure's ability to provide quality maintenance support. An effective safety program is essential to the success of maintenance operations.

8-3. Safety must encompass all phases of support operations. Leaders and managers must ensure personnel are trained and aware of the proper handling of material, the safe use of hand tools, and the consistent application of safety practices. Personnel must be constantly vigilant to detect potential hazards, to apply control measures, to reduce or eliminate danger, and to report accidents and safety hazards promptly.

MAINTENANCE HAZARDS

8-4. Maintenance support operations involve numerous potential safety hazards. These hazards are present in operations involving—

- High voltage and amperage.
- High-pressure air.
- Hydraulics.
- Infrared radiation.
- Radioactivity.
- Radio frequency energy.
- Lasers.
- Mechanical devices.
- Solvents and chemicals.
- Explosives and flammables.

MAINTENANCE SAFETY

8-5. Personnel in maintenance units must be familiar with the contents of all pertinent publications. DA Pamphlet 25-30 lists regulations for safety policies and procedures. Technical bulletins and manuals provide information on the safe handling, use, storage, and maintenance requirements of tools, equipment, and hazardous materials. Optimum safety depends on personnel following correct safety procedures. Shortcuts or deviations can result in accidents.

RESPONSIBILITIES AND DUTIES

8-6. Safety is a command responsibility at all echelons. Commanding officers must take an active, aggressive leadership position on safety. They must appoint a unit safety officer and organize a safety committee of technical and supervisory personnel. The commander is also responsible for determining the cause of accidents and ensuring that corrective action is taken to prevent their recurrence. When existing safety rules need revision due to changes in equipment, operating conditions, or operating areas, it is the unit commander's responsibility to initiate action accommodating the changes.

LEADER LEVEL

8-7. Leaders and managers ensure that soldiers perform their duties safely. Keeping soldiers aware, ensuring they are careful, halting unsafe operations, planning, and preparing are the proactive measures leaders take to prevent accidents.

INDIVIDUAL LEVEL

8-8. Safety regulations and guidelines are for everyone's protection and welfare. Each individual is responsible for following all instructions and using all safeguards. Cooperation among workers to develop and practice safe working habits is essential to prevent injuries to personnel and damage to material and facilities. The key to the safety program is focusing the whole effort to prevent individuals from having accidents. The prevention equation is simple:

Training + Equipment + Motivation + Leadership = SAFETY

Each element must be present in the proper amount, and the individual person normally knows if this is the case.

UNIT SAFETY PROGRAM

8-9. An effective unit safety program is necessary for mission accomplishment. A maintenance mission cannot be fully successful if death, injury, or damage to equipment or facilities occurs within it. Leaders and managers must comply with regulatory requirements for their particular operations. They ensure that the program conforms with AR 385-10 and DA Pamphlet 385-1.

UNIT SAFETY OFFICER

8-10. The unit safety officer supervises, manages, coordinates activities related to unit safety, advises the commander on safety matters, including risk assessment and risk management, and suggests improvements to the unit safety program.

SUPERVISORS' RESPONSIBILITIES

8-11. Supervisors must include safety in their plans and discussions of daily maintenance operations. Supervisors must hold regular meetings in the work area. These meetings serve—

- To review and critique performance, draw out ideas on improving the safety program, and publicize new or changed safety procedures.
- As a source of information and ideas that may have a wider use.

ACCIDENT FOLLOW-UP PROCEDURES

8-12. Under the Army Safety Program, the supervisor must record each accident in accordance with DA Pamphlet 385-40. Report accidents on DA Forms 285 or 285-AB-R. Guidance for preparing these forms is in DA Pamphlet 385-40. When an accident occurs, gather all essential information. The following facts should be obtained:

- Names of personnel injured, identification of equipment or facility damaged.
- Time and place the accident occurred.
- Severity and cost (in manpower and materiel) of the accident.
- Nature of the accident.

- How and why the accident occurred.

8-13. Leaders and managers must concentrate on the prevention of similar accidents. Corrective actions can include removing hazards, improving operations, redesigning or modifying equipment, and training personnel. Near-miss accidents should also be reported so that personnel can exercise preventive measures. Leaders and managers must monitor corrective action to ensure that it is being implemented.

EQUIPMENT OPERATOR SELECTION

8-14. The unit safety program must be closely associated with the selection of equipment operators and their training. Leaders and managers must strive for an effective equipment operator qualification program. AR 600-55 contains guidance about vehicle driver training selection, testing, and licensing.

SAFETY STANDING OPERATING PROCEDURES

8-15. The safety officer is responsible for the preparation of the unit safety SOP. Some of the elements the safety officer should include in the SOP are—

- Safety officer and safety council members responsibilities.
- Safety hazard and accident reporting procedures.
- Accident or injury investigation procedures.
- Fire fighting and first aid team responsibilities.
- Location and use of safety, first aid, and fire fighting equipment.
- Responsibilities of other key unit positions (e.g., maintenance control officer, shop foreman, platoon leaders and sergeants).

Other considerations include—

- Hazardous material (HAZMAT) and hazardous communications (HAZCOM) local written policy and programs.
- Safety award program and policy.
- Location, care, and use of personnel protective clothing and equipment (PPC&E).
- Initial and sustainment safety training for assigned personnel.
- Safety action plans outlining goals and objectives.
- Periodic safety meetings.

FIRE PREVENTION PROGRAM

8-16. Fire prevention is important to a maintenance shop. The unit fire prevention program focuses on training personnel in methods of fire prevention and how to react to a fire. See AR 420-90 for guidance on establishing a fire prevention program. Teach personnel to respond instinctively with the actions required to fight fires. The primary methods of fire prevention are—

- Keep the shop and vicinity free from oil and other organic materials (such as wood, paper, and fabrics).
- Inspect the area frequently to detect and remove hazards.

HAZARDOUS COMMUNICATIONS PROGRAM

8-17. The HAZCOM program was created in response to federal law requiring each soldier to know and understand how to safely use, store, handle, and dispose of hazardous materials (primarily chemical). Table 8-1 lists the six steps required for maintaining a satisfactory HAZCOM program.

Table 8-1. HAZCOM Program Procedures

Step	Action
1	Ensure containers are properly labeled.
2	Identify hazardous materials and associated hazards to assigned personnel. By federal law, hazardous materials (chemicals) must be shipped with a materiel safety data sheet (MSDS).
3	Train personnel in the safe handling, use, storage, and disposal of each hazardous material.
4	Maintain a HAZMAT inventory.
5	Maintain a copy of the MSDS for each hazardous material on hand. Personnel should know MSDS's location and use.
6	Maintain a local written HAZCOM program, usually as an appendix to the safety SOP. The program explains how HAZCOM steps are accomplished and addresses any special procedures or requirements.

PERSONNEL SAFETY/PROTECTION PROGRAMS

8-18. Numerous safety programs can be incorporated into day-to-day maintenance operations:

- Visual protection programs.
- Hearing protection programs.
- Respiratory protection programs.
- Laser/radiation protection programs.

VISION PROTECTION

8-19. There are three types of vision hazards:

- Physical impact.
- Chemical contact.
- Energy intensity.

Vision hazards can be eliminated by using the personnel protective clothing and equipment appropriate to the maintenance operation. TB MED 506 provides guidance on establishing a vision protection program.

HEARING CONSERVATION

8-20. Noise is a hazard affecting the physical and mental abilities of personnel that must be considered in maintenance operations. See ARs 40-5 and 385-10 for guidance on hearing conservation.

RESPIRATORY PROTECTION

8-21. Maintenance operations involving the use of chemicals or paints present a health hazard. Protection from these hazards should be a safety consideration in maintenance operations. See TB MED 502 for guidance.

LASER RADIATION PROTECTION

8-22. Laser radiation can be an extreme health hazard. Certain types of equipment used in maintenance operations emit a laser beam or radiation. These hazards are a safety consideration in maintenance operations. See TB MED 524 for guidance on establishing a laser/radiation protection program.

SAFETY PLANS

8-23. Below are some safety-related plans. They can either be separate from the safety SOP or appear as an annex.

FIRE PLAN

8-24. General guidance for fire plans is contained in TMs 5-315 and 9-1300-206. Each installation or activity storing or handling ammunition must have an effective fire plan designed to prevent and fight fires. The plan must—

- Include a description of emergency functions for each section, activity, or outside agency.
- Conform to the individual installation or activity.
- Specify personnel responsibilities.

8-25. The following will be incorporated into the fire plan:

- Procedures for fire reporting.
- Procedures for orderly evacuation of nonessential personnel.
- Procedures for warning personnel of the impending danger.
- Methods for extinguishing or controlling fires until fire fighting forces arrive.

A detailed map indicating types of ammunition stored, their location, and specific hazards associated with them will be prepared. Provide this document to the local MPs and fire department.

EMERGENCY EVACUATION PLAN

8-26. The emergency evacuation plan will—

- Provide policies and procedures for emergency evacuation during fires, natural disasters, or hazardous material spills.
- Be detailed enough for personnel to know what actions to take.
- Include warnings and cautions concerning special unit operations.

GENERAL SAFETY HAZARDS

8-27. General safety hazards include—

- Noise.
- Vehicles.
- Lifting devices.

- High pressure.
- Electricity.
- Radio frequency.
- Electro-explosive devices.
- Radioactive material.
- Armed weapons.
- Mechanical equipment.
- Welding.

NOISE

8-28. Noise is a hazard that can affect the physical and mental abilities of personnel. Constant, high noise levels, either in frequency or volume, have a degrading effect on personnel efficiency. Ear damage can result from loud, sharp noises, including high-frequency chatter from electronic test equipment.

VEHICLES

8-29. Personnel who operate vehicles will be selected and trained according to guidance in AR 600-55, FM 21-305, and FM 21-306. Drivers will conduct a daily safety examination of their vehicle. Speed limits will be established within the shop area (they are not governed by installation or area regulations). Personnel will be informed of driving rules—both military and civilian. A motor vehicle accident prevention program will be established in accordance with AR 385-55.

LIFTING DEVICES

8-30. Safety must be observed during lifting; the capacity of lifting devices should never be exceeded. Lifting devices (hoists, lifts, stands, booms) must be load-tested and properly marked with their maximum lift capacity. For detailed guidance on lifting devices, see TB 43-0142.

HIGH PRESSURE

8-31. High-pressure equipment maintenance support operations are categorized as either *air* or *hydraulic*. Equipment technical manuals contain general and specific safety rules that must be followed when working with and around such equipment. Personnel should be trained in the hazards and precautions to observe while using high-pressure equipment, as well as in how to use and maintain PPC&E.

ELECTRICITY

8-32. Electrical and electronic components are present in most equipment. When dealing with these items, personnel must be thoroughly familiar with the danger of electrical shock and with lifesaving techniques. Precautions and first aid techniques are usually listed in the front of maintenance technical manuals. Operators and maintainers should thoroughly familiarize themselves with these precautions and first aid techniques. For further guidance, see TB 385-4 and FM 21-11.

RADIO FREQUENCY

8-33. Radio frequency (including microwave and ultrasound energy) and energy policies and procedures are covered in the operator's manuals for specific equipment as well as in TB MED 523. Some equipment radiates high-intensity RF energy, which may be hazardous to personnel or to other equipment. Personnel should be familiar with the hazards and special procedures involved with such equipment. Minimum safe distances are normally referenced in the technical manuals for major equipment that emits high-intensity RF energy.

ELECTRO-EXPLOSIVE DEVICES

8-34. Some squibs and detonators can be inadvertently fired by RF energy from sources like radios or radar transmitters. EEDs are relatively safe (even in strong RF fields) when enclosed in metal containers. For more details on safety under these circumstances, refer to FM 9-6 or the system technical manual.

RADIOACTIVE MATERIAL

8-35. Minimize the probability of injury from radioactive material radiation by observing the following precautions:

- Check pertinent technical manuals for designation and location of radioactive material.
- *Never* touch damaged or broken radioactive tubes with bare hands. Use proper personal protective clothing and equipment.
- Include radiation safety in an SOP and in annual awareness training.
- Inventory all ionizing (radioactive) and nonionizing (radiating) materials and sources annually. (These materials and sources can be found throughout a maintenance unit—in the M8A1 chemical agent alarm, some missile system tubes, hand-held compasses, and lasers.)
- Check local reporting procedures with the installation radiation protection officer, who is normally assigned to the installation safety office.
- Check TB 43-0116 and TB 43-0197 to determine where radioactive materials are located in military equipment.
- Check AR 385-11 for guidance on ionizing radiation protection, transportation, and disposal. Coordinate with the radiation protection officer (RPO).
- Under AR 385-11, report radiological incidents and accidents to the RPO.
- Post warning signs.

ARMED WEAPONS

8-36. Recovery teams need to know how to disarm weapon systems. Maintenance support teams should know what actions or precautions are necessary if a hangfire or dud ordnance occurs. Applicable weapon systems technical manuals should provide guidance; however, when in doubt, request help from the using unit or EOD unit.

MECHANICAL EQUIPMENT

8-37. Radar, launchers, transporters, and other associated mechanical equipment present many hazards that can result in falls or entanglement with their moving parts. Specific precautions are normally listed in the front of maintenance technical manuals. Observance of the following general precautions will reduce the chances of an accident due to mechanical contact:

- Do *not* wear loose clothing or jewelry while working in the vicinity of equipment with moving components.
- Do *not* attempt to lift equipment that normally requires movement by more than one person.
- Place warning devices or signs around areas with mechanical hazards IAW guidance in AR 385-30.

WELDING

8-38. Welders must—

- Be familiar with processes and procedures covered in TC 9-237 and in technical manuals applicable to the equipment they are working with.
- Use prescribed personnel protective clothing and equipment and consider the safety of other personnel.
- Do not operate welding equipment in areas where sparks might result in fires or explosion or where personnel may suffer eye burns from the arc.

MAINTENANCE ACCIDENT PREVENTION

8-39. Maintenance accidents involving on-duty soldiers and civilians injured while installing, removing, or modifying equipment should be addressed when developing prevention programs. Accident prevention is vital to combat readiness. The following four factors are responsible for most accidents:

- Failure to follow procedures.
- Poor supervision.
- Lack of written procedures.
- Insufficient or no training.

MAINTENANCE FACILITY ACCIDENTS

8-40. Areas that account for accidents in maintenance facilities include—

- Operation of tools and equipment.
- Lifting (see DA Pamphlet 385-5).
- Hazardous actions.
- Lack of security and inadequate inspection of equipment.
- Lack of communication.
- Poor housekeeping.
- Carelessness.
- Failure to depressurize or disconnect components or equipment.
- Fatigue.

VEHICLE ACCIDENTS

8-41. Common causes of vehicle accidents in maintenance units include—

- Lack of driver training.
- Speeding.
- Fatigue.
- Following too closely.
- Improper ground guiding.
- Failure to wear seat belts.

MATERIAL SAFETY DATA SHEETS

8-42. Material safety data sheets are the key to the HAZCOM program. Each manufacturer of hazardous materials is required by federal law to produce an MSDS for that material. The unit can obtain MSDSs by—

- Removing them from bulk packages of hazardous materials.
- Requesting them from the manufacturer.
- Requesting them through normal safety channels.

SECTIONS FOR ALL PERSONNEL

8-43. All personnel working with HAZMAT should know the following information, normally found in the first sections of the MSDS:

- Administrative information: for example, the HAZMAT's chemical name.
- General information: for example, the manufacturer's name, address, and emergency phone numbers; unit of issue; container quantity, container type; and net unit weight.
- Ingredients information: the chemicals that make up the material, its characteristics (appearance, odor, and boiling point) needed to identify a spill or leak. The boiling point is important when determining where to store hazardous materials.
- Fire and explosion hazard data: extinguishing materials, special fire fighting procedures, and unusual fire and explosive hazards.
- Reactivity: information on stability, conditions and materials to avoid, and hazardous decomposition products.

SECTIONS FOR SUPERVISORS

8-44. The remaining sections are used primarily by first-line supervisors to help them comply with their HAZCOM program responsibilities:

- Health hazards: signs and symptoms of exposure, medical conditions aggravated by exposure, and emergency and first aid procedures—items that first-line supervisors must inform personnel of.
- Precautions for safe handling and use: what to do if a material is released or spilled, what the waste disposal method is, proper handling and storage precautions, and any special precautions (most hazardous materials cannot be "simply" thrown away). Supervisors should use the information in this section to train their personnel. Military waste disposal should be handled through normal logistics channels. The unit supply or the installation logistics office will advise on procedures for

waste disposal. The installation safety office can also help identify the appropriate authority. See AR 200-1 for guidance on environmental protection and enhancements.

- Control measures: type of personnel protective clothing and equipment required to safely use a hazardous material. Supervisors train personnel how to obtain, use, and maintain the equipment. The unit safety officer should be able to answer any question concerning approved safety PPC&E.
- Transportation data: physical and chemical characteristics, fire and explosion hazard data, and reactivity as needed to safely transport hazardous materials. Refer to this section when determining the category or hazard classification of the material being transported.

PERSONNEL PROTECTIVE CLOTHING AND EQUIPMENT

8-45. PPC&E should be used as appropriate to enhance safe operations. Safety equipment must be in good working condition and capable of serving the purpose for which it was designed. Persons who are issued PPC&E should understand how to put on, wear, and maintain it. Appropriate personal protective clothing and equipment should be selected based on the operation's hazards.

8-46. The most logical method of determining the need for PPC&E and the specific kind needed is a survey of all shop operations. AR 385-10 requires written documentation on the selection of personal protective clothing and equipment. Good maintenance of safety PPC&E prolongs its life as well as the user's in addition to ensuring proper functioning and use. For further information on the use and availability of protective clothing and equipment, see DA Pamphlet 385-3 and AR 385-10.

RISK ASSESSMENT AND RISK MANAGEMENT

8-47. Tough, realistic training conducted to standard is the cornerstone of Army warfighting skills. An intense training environment stresses both soldiers and equipment, which creates a high potential for accidents. Commanders must find ways to protect their soldiers and equipment from accidents during training. Risk assessment—

- Is a commonsense way of identifying hazards and the systemic effects they have on the mission.
- Is a tool leaders can use to make smart decisions. It allows them to execute more realistic training scenarios, not otherwise possible, through the use of control measures.
- When applied to day-to-day operations, helps reduce accidents by means of proactive prevention and increased awareness.

8-48. Commanders and staff can use the following information as a guide for managing risks as it applies to their organization and mission during peace and war. Conducting risk assessment and then applying risk management should become a fully integrated part of mission planning and execution. These management tools are a way to get the job done by identifying the